MUSC-2800 Assignment I: EXPANSION OF TONALITY

Compose a four-measure piece for piano. Use a motive at least twice. Use one Augmented 6th chord of your choice, RESOLVED INCORRECTLY. Be conscious of form. Give an harmonic analysis of your composition.

Grading:	Use of motive	11
	Use of Augmented 6th	11
	Idiomatic use of piano	11
	Form -- focal point	11
	Rhythmic interest	11
	Proper alignment of beats, subdivisions, etc.	11
	Proper set-up of manuscript	11
	Editing -- dynamics, tempo, articulation, etc.	11
	Correct analysis, labelling	11

RICHARD WAGNER

Either you like Wagner's music or you don't. For some people, Wagnerian opera represents the highest form of art as a synthesis of music and drama. For others, it's just fat people shouting at each other in German for what seems like eternity. Personally, I'm inclined to agree with Rossini, who said that "Wagner has good moments, but bad quarter-hours."

The first performance of a Wagner opera took place in Magdeburg in 1836. *Das Liebesverbot,* based on Shakespeare's "Measure for Measure," was not a rousing success: there were barely two performances. On the first night, the leading tenor forgot most of his lines and hid behind a big feather boa, hoping that might help. The second night never really got off the ground at all. The leading soprano's jealous husband went backstage and punched the second tenor in the nose, thinking they were having an affair. When she tried to stop her husband, he hit her too, and she fainted. To make matters worse, Wagner's pet dog, a poodle, had run away from home.

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Wagner's essays are nothing compared to his contribution in the development of opera. Having decided out of the blue that all great art must take its inspiration from pre-Christian mythology, Wagner set out to create an epic saga combining music and drama into one unified art work, which he called *Gesamtkunstwerk.* [total work of art]

Wagner's theories saw their fulfillment in his opera cycle *Das Ring des Nibelungen,* which is actually made up of four operas. He took a break in the middle to compose *Tristan und Isolde,* not part of the cycle. Together, the four operas of the Ring Cycle tell the story of a magic ring that everyone is fighting over. It was guarded by the Rhine maidens and stolen by the dwarf Alberich. In fact, nearly everyone makes a try to steal the ring: Fafnir, the giant who looks like a dragon; Wotan, the ruler of the gods; Mime, another dwarf; and Siegfried, the dashing hero.

As part of his theory of *Gesamtkunstwerk,* Wagner developed a compositional style he called "endless melody." To do this, he created a *leitmotif,* or a little tune, to represent each important character and many objects in the play. There's a *leitmotif* for Siegfried, one for the ring, one for his sword, and so on – 90 of them in all. The *leitmotifs* help the audience figure out what's happening onstage, which is particularly useful if you're sitting in the back of the hall and can't see what's going on. Claude Debussy thought *leitmotifs* were silly, saying: "The *leitmotif* system suggests a world of harmless lunatics who present their visiting cards and shout their names in song."

Speaking of harmless lunatics, Wagner got most of the money to build his enormous opera house in Bayreuth from Mad King Ludwig of Bavaria. Ludwig was called Mad for a variety of reasons, only one of which was giving so much money to Wagner.

Wagner definitely let success go to his head, and in the years before his death in 1883 he indulged himself fully in his love of luxury. Most of his final opera, *Parsifal*, was composed after hours of soaking in a hot tub full of perfume. His demands for fine clothing made from satin, silk, and fur trim strained the resources of his seamstress.

"Mine is a highly susceptible, intense, voracious sensuality," he wrote, "which must somehow or other be indulged if my mind is to accomplish the agonizing labor of calling a non-existent world into being."

Beethoven on Choices of Keys in Composition

Beethoven felt that a psyche is implicit within the essence of each key/tonality. He claimed that, when he had no difficulty in distinguishing C# Major from its enharmonic Db Major, the ear was only secondary in making the distinction and that first of all came the feeling of the subtle difference between the two keys.

Beethoven: "You have the harlequin dancing in Db Major; I am going to play it in D Major. You say it doesn't matter whether a song is in F minor, E minor, or G minor; I call that as nonsensical as saying that two times two are five. When I make Pizarro sing in harsh keys [even in G# Major] when he makes his heinous accusations of Florestan to the jailer, I do it to convey the nature of this individual, which is fully revealed in his duet with Rocco. These keys give me the best colors with which to express his character."

Could Beethoven have chosen any key but F Major as the predominating key to convey most perfectly a <u>sense of bucolic peace</u> for his *Pastoral Symphony*? Why is <u>solemnity best expressed in E Major</u>, while other major keys are less successful and F and G will not do at all? Just try transposing the Chorus of the Priests in Mozart's *Zauberflöte* from E to D or F Major, and you will be convinced. The critic who reviewed the C# minor sonata, opus 27/2, said of the first and third movements: 'There is good reason for the two main movements to have been written in the <u>awesome key of C# minor</u>.' If one transposes these two movements into the neighboring minor keys of C or D, or into more remote keys, the completely different effect is obvious.

From the foregoing we may infer whether our master would ever condone transposition. If anyone had dared to play even a little song of his in another key in his presence, the malefactor would soon have regretted his mistake. He was incensed when he heard this or that aria from a Mozart opera performed in a key other than its original one. This outrage was often committed by a capricious singer, Grünbaum, in the twenties in Vienna.

Beethoven did not hesitate to declare that <u>before setting a text he would deliberate with himself as to the most suitable key. To deny without reason the special character of the different keys was to Beethoven like denying the effect of the sun and the moon on the ebb and flow of the tides, a phenomenon recognized by the ancients and indisputably established through the studies of Laplace</u>.

Some Meanings of Keys

from Jean Phillipe Rameau's Treatise on Harmony, Book II, Chapter 20.

Major Keys:

A	rejoicing	Eb	faith
Bb	tempests	E	tenderness
B	conflict	F	disaster
C	home, contentment	F#	tension
C#	great tension	G	gaiety
D	mirth	G#	?

All minor keys may be used for sweetness, tenderness, etc. C and F minor are especially plaintive. F minor and Bb minor are used to depict despair.

Another point of view on keys, as related to the body and colors:

NOTE: These numbers indicate the 7 Chakras of the body.

Numbers	Body Regions/Interpretation	Tones	Colors
7	top of head (spiritual)	B	indigo
6	third eye (intuition)	A	purple
5	throat (communication)	G	blue
4	heart (center of emotions)	F	green
3	solar plexus (food, digestion)	E	yellow
2	reproductive organs (sexual)	D	orange
1	base of spine (primal instinct)	C	red

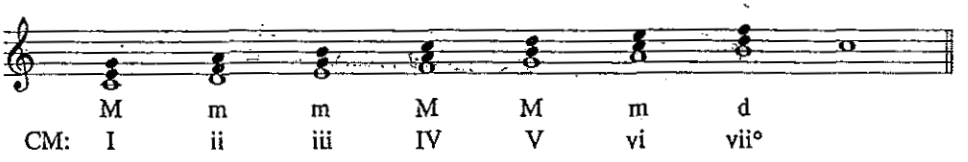
Borrowed Chords

By definition: chords that are *literally borrowed* from Parallel Major and Minor keys. Since there are three forms of the minor scale and one form of the major scale, there are a total of sixteen different possible triads and nineteen different 7th chords for any particular selection of a Major and its parallel Minor keys.

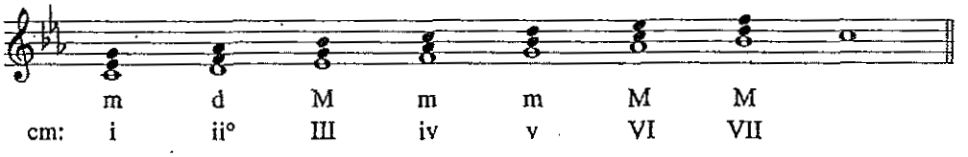
Major Keys most often borrow the following: ii 6 ii 7 iv bVI vii 7

Minor Keys most often borrow: I (Picardy third at authentic cadence)

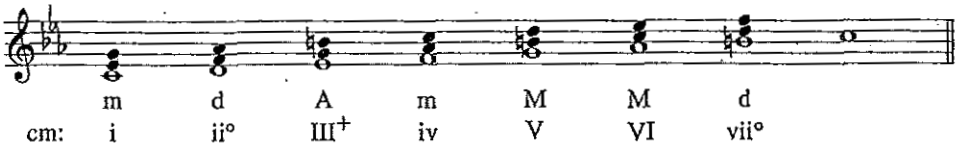
Triad types for all diatonic forms of the key of C:



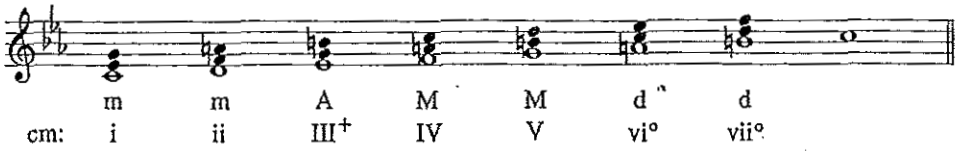
In the minor scale (natural form):



In the minor scale (harmonic form):



In the minor scale (melodic form):



THE CONCEPT OF FORM

The term ***form*** is used in several different senses. When used in connection with ***binary, ternary*** or ***rondo form,*** it refers chiefly to the number of segments. The words ***sonata form*** [*sonata-allegro form*] suggests, instead, the size of the sections and the complexity of their interrelationships. In speaking of ***minuet, gigue, bourée*** and other ***dance forms,*** one has in mind the meter, tempo and rhythmic characteristics which identify the particular dance.

Used in the aesthetic sense, ***form*** means that a piece is ***organized***; i.e. that it consists of elements functioning like those of a living organism.

Without organization music would be an amorphous mass, as unintelligible as an essay without punctuation, or as disconnected as a conversation which leaps purposelessly from one subject to another.

The chief requirements for the creation of a comprehensible form are ***logic*** and ***coherence.*** The presentation, development and interconnection of ideas must be based on relationship. Ideas must be differentiated according to their importance and function.

Moreover, **one can comprehend only what one can keep in mind.** A person's mental limitations prevent him/her from grasping anything which is too lengthy. Thus appropriate subdivision facilitates understanding and determines the ***form***..

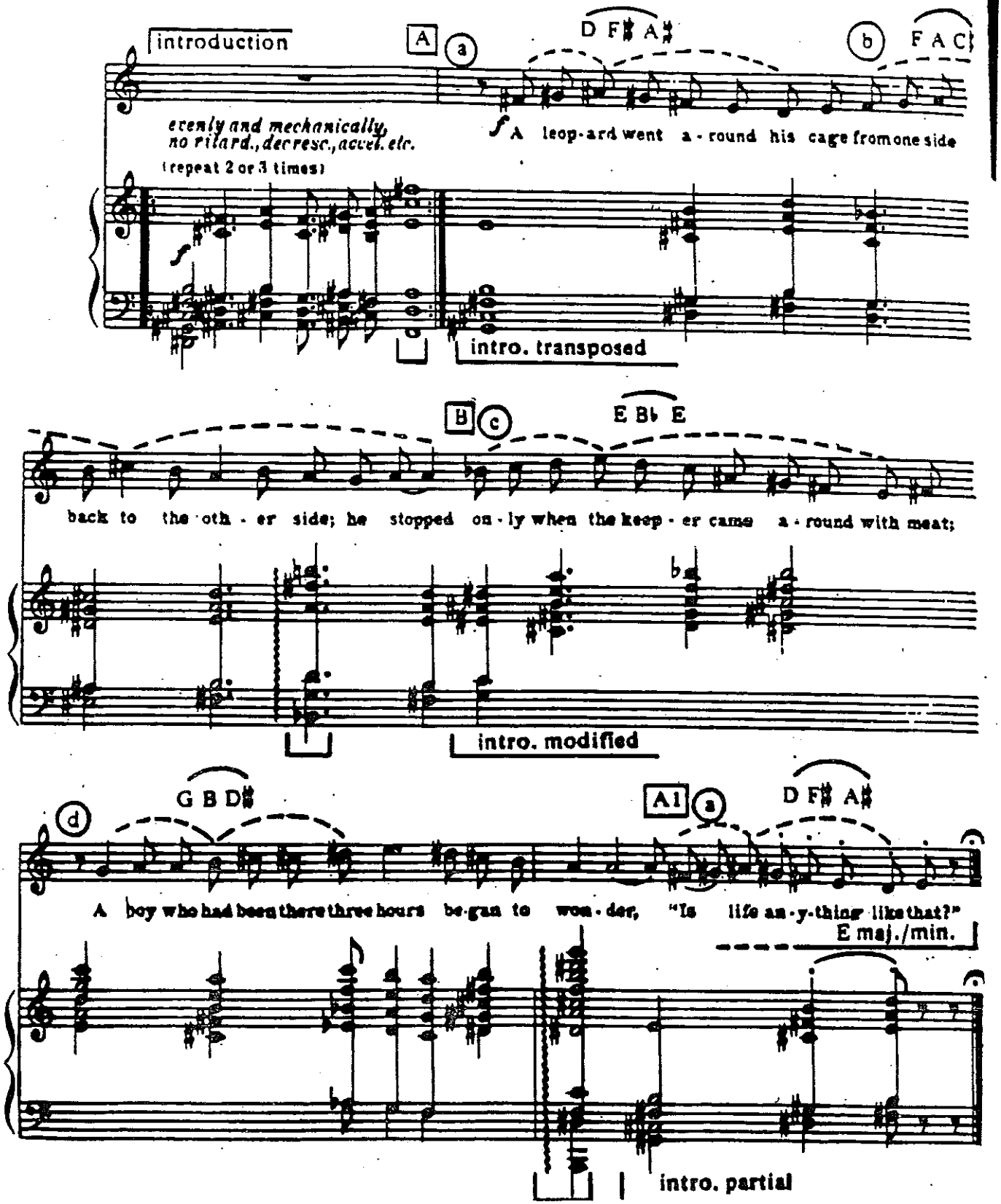
The size/length and number of sections does not always depend on the overall length of a piece. Generally, the longer the piece, the greater the number of sections. But sometimes a short piece may have the same number of sections as a longer one, just as a child has the same number of limbs and generally the same physical form as a 25-year-old.

A composer does not, of course, add bit by bit, as a child does in building with wooden blocks. He/she may conceive an entire composition as a spontaneous vision. Then he/she proceeds, like Michelangelo who chiselled his *Moses* out of the marble without sketches, complete in every detail, thus directly *forming* his material.

No beginner is capable of envisaging a composition in its entirety; hence, the student must proceed gradually, from the simpler to the more complex. Simplified practice-forms, which do not always correspond to art forms, help the student to acquire the sense of form and a knowledge of the essentials of construction. It will be useful to start by building musical blocks and connecting them coherently/intelligently.

These musical blocks (***phrases, periods, motives, etc.***) will provide the material for building larger units of various kinds, according to the requirements of the longer forms. Thus the demands of logic, coherence and comprehensibility can be fulfilled, in relation to the need for **contrast, variety,** and **continuity** of presentation.

EXAMPLE 7–4. Ives, Song No. 64, "The Cage," from *114 Songs*, entire song, whole-tone vocal phrases, quartal harmonies, and atonal distortion of a sort of E major/minor (last two vocal phrases)



Symmetry

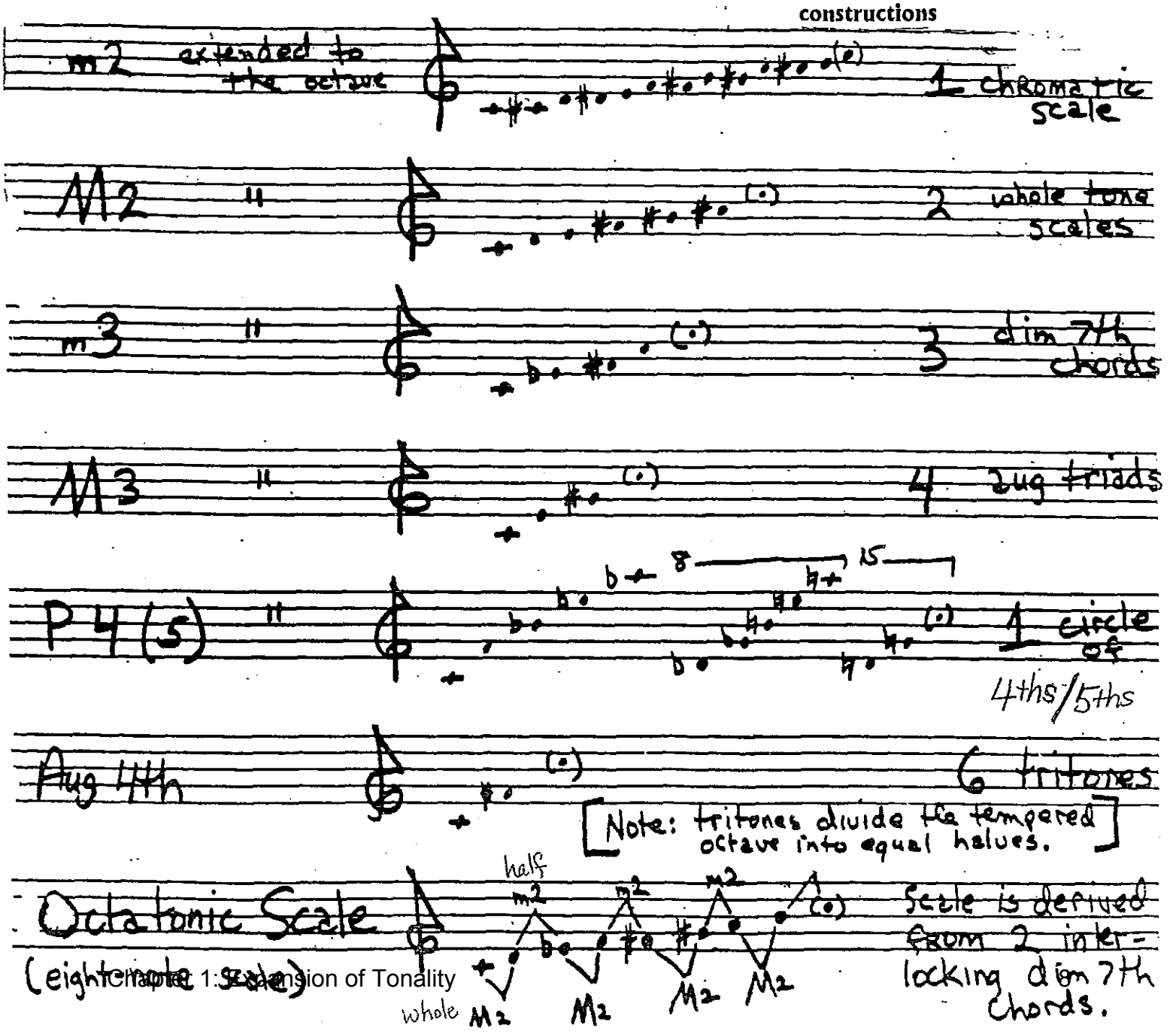
20th Century composers, by concerning themselves systematically with the basic intervals, their logical extensions, and their relationships, have "Beat the System" of functional [tonal] harmony.

The symmetrical constructions listed below:

1) **neutralize the sense of tonic**
2) **allow free passage from one tonal area to another**
3) **enable the composer to assert or deny tonality at any time**

Intervals	Extensions	Number of available constructions
m2 extended to the octave		1 chromatic scale
M2 "		2 whole tone scales
m3 "		3 dim 7th chords
M3 "		4 aug triads
P4(5) "		1 circle of 4ths/5ths
Aug 4th		6 tritones
Octatonic Scale (eightonic scale)		Scale is derived from 2 interlocking dim 7th chords.

[Note: tritones divide the tempered octave into equal halves.]



Chro-Mod Assignment I – Wagner Name_____

Use of motive at least twice

Use of Aug. 6th, resolved incorrectly

Idiomatic use of the piano

Form – focal point

Rhythmic interest

Scoring: proper alignment of beats, subdivisions, etc.

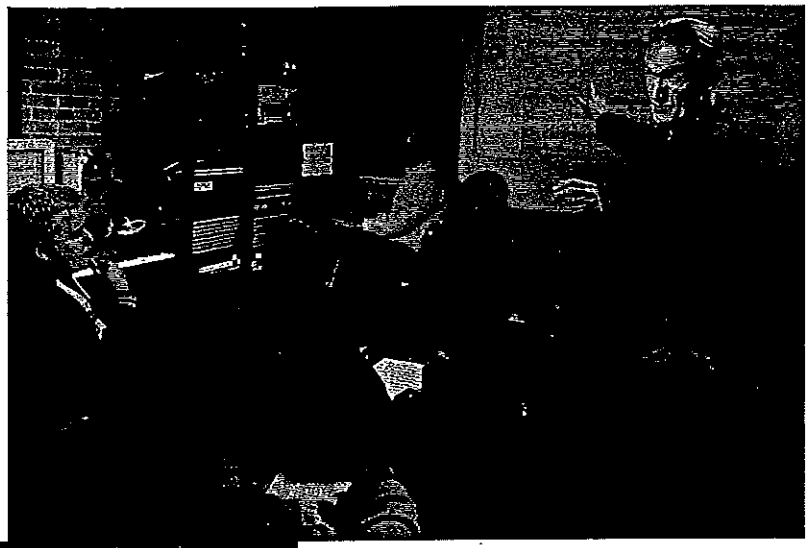
Scoring: proper set-up of manuscript elements

Editing – dynamics, tempo, articulation, etc.

Correct analysis, labeling

HOW do composers compose?

Today, when the line between composers and performers with their audiences is especially sharp, the development of compositions seems removed from general understanding. *Con Brio* planned to elucidate the process in an interview with one of the most respected and admired graduates of the School of Music, composer and University of Wisconsin-Milwaukee pedagogue John W. Downey ('49.)



For the interview, Downey was looking forward to a visit from his friends and admirers, George Flynn, *emeritus* chair of musicianship studies at DePaul, and Kurt Westerberg, Flynn's successor. Unfortunately, Downey died in Milwaukee on December 18, 2004, at the age of 77, from complications of a stroke. Flynn and Westerberg, noted composers in their own right, returned from the funeral to talk with *Con Brio* about composition, and about Downey.

GEORGE FLYNN | KURT WESTERBERG

What are the memories you will carry about John Downey, the person, and what should we remember about John Downey, the composer?

GEORGE FLYNN: John and his lovely wife, Irusha, were very good friends of mine. They were kind, gentle people. On a professional level, John was a major figure in this part of the country, and was also recognized across the nation as well as in Europe. He wrote much compelling music—solo, chamber, and orchestral, and it is well represented on disc, as *Schwann's Opus* record guide reveals. I feel fortunate to have known John and Irusha, and to have heard a good deal of John's music. I know that DePaul will be one of the many venues here and abroad that will keep John's music alive.

KURT WESTERBERG: John Downey was one of the gentlest and kindest composers who I ever had the pleasure to meet. He and his wife, Irusha, were an influential and inspiring couple who were very enjoyable and stimulating to meet and talk with. I miss them both very much. I think that John viewed the art of music as possible of transcendence and consistently strove for this in his compositions, which were always passionate, adventurous in both scope and vocabulary, and often compelling.

Do composers have many different compositional ideas "in their heads" before settling on one? Describe the process.

KW: I think that composers often have many possible works developing internally and choose to complete the work which "fits the moment" in terms of instrumentation, length, date of first performance, etc. Sometimes, however, it is actually possible for me to develop and complete the work that I'm most interested in working on.

GF: I can't speak for others, but I sometimes have a variety of ideas surrounding a given piece. I frequently use most or all of them, but in different places in the piece, and in different ways. I have to settle on one for this or that part of the piece, such as its beginning.

As the saying goes, how much of the composition process is "inspiration," how much "perspiration"?

GF: For me it's all inspiration at first. As the piece goes along it becomes more and more perspiration, with the final chores being strictly secretarial work.

KW: Inspiration can occur in so many ways and forms and at so many different times during the compositional process. Debussy writes about works based on perceptions/inspirations that occurred twenty years before the actual composition. I think that is often the case with significant moments of realization—we somehow internalize them for a long period of time before being able to utilize them in an actual composition. The realization part, the development and notation of the work, is usually one of perspiration—just doing the work.

What do composers listen for in various performances/ recordings of their compositions?

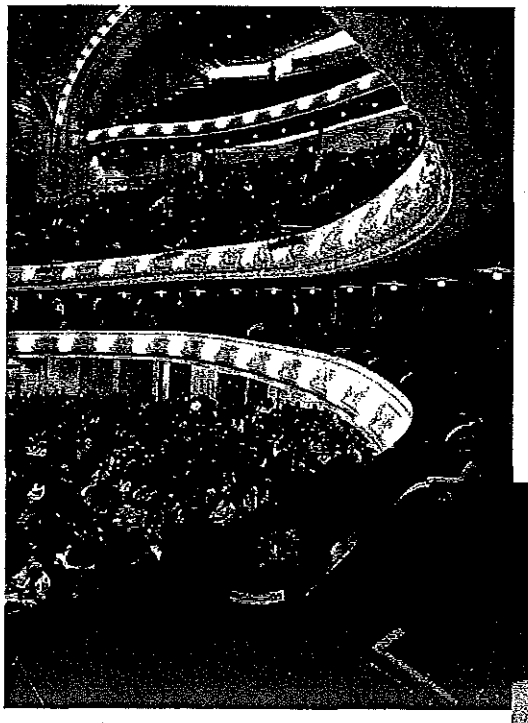
KW: With a good performance, one can judge the overall sense of things—the larger concepts and how they are communicated—the stuff that is most important.

GF: Accuracy, worthiness of the piece, what should be changed, based on the new perspective.

Leonard Bernstein talks about the "inevitability" of one note following another in a composition that touches listeners. Do you agree?

KW: I remember this chapter in the *Joy of Music* and I think Bernstein was focusing primarily on the music of Beethoven, music which can sound inevitable or convincing because of the heroic directness of Beethoven's style and because of the frequency of its performance. We hear it so often that we convince ourselves that each note is inevitable. I think good works are convincing in their vocabulary and the way that the vocabulary is used. But I do not think that good music has to be direct or have a note-to-note sense of inevitability. Some of the music that I like best is ambiguous and mysterious.

GF: Bernstein is being a poet here. His statement is pretty, but in an intersubjective sense it's meaningless and unverifiable at any level. Although he can't do it now, I would have liked to hear him discuss "inevitability" such that we could all agree as to its meaning and applications. It's a semantic, not a musical, or even an aesthetic, issue.



For whom does a composer compose? Him/herself? Performers? Audiences?

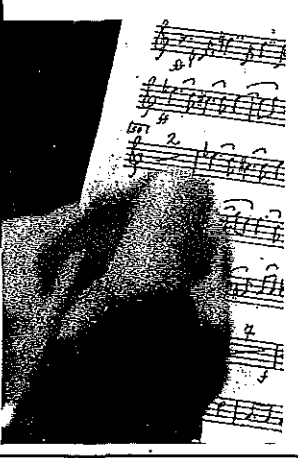
GF: Certainly a piece must be okay to me. It would be nice if it seemed right to those whose preferences I share, or to those for whom the piece was written, such as requesters, performers, etc. I know in advance that my music will appeal, at best, to a relatively small number of people. That's fine.

KW: I think it can be very dangerous for young composers to write with an audience in mind, to try to compose the great American symphony that will bring the masses to the concert halls. It is much more important for a composer to develop himself or herself, to build and refine a musical language that speaks for themselves. It is then possible to compose works that will communicate sincerely to an audience. The level of possible performer—overall ability, experience with new music—has to be kept in mind, of course. I know that I have a certain type of performer and a general audience in the back of mind in each of my works. But I try not to write to "please" the audience or performer. Instead I write to communicate with both performer and audience.

What are the two most important points you make to your students regarding composition?

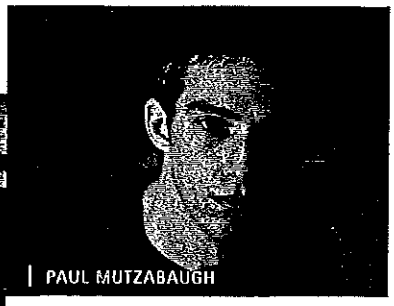
KW: 1. Keep going. 2. Keep revising.

GF: Persistence, and being aware of what you are doing and its implications.



finding a voice

The Fifth Annual Sidney and Mary Kleinman Prize in Composition competition, which is open to all students enrolled in the School and to alumni under the age of 30, and offers $1,000 to the winner, has been announced. Three past Kleinman winners tell *Con Brio* the impact of their DePaul education and winning the prize.



PAUL MUTZABAUGH

PAUL MUTZABAUGH ('02) won the first Kleinman Prize, in 2001. A Mount Prospect native, he now lives in Rogers Park and works full time as a freelance pianist/keyboardist in genres including straight-ahead jazz and original pop/rock, in jobbing bands, studio sessions, and groups such as The Renegades, a jazz-fusion group which has released a CD featuring eight of his compositions. Entitled *Doppler Olympics*, it is available at www.cdbaby.com/renegades.

How did your DePaul education help you as you were finding your compositional "voice"?

DePaul turned me on to many different styles of music. Frederick Gifford was the first of the composition faculty to really introduce me to 20th century music. While I was a bit skeptical at first, I grew to love the innovative nature of this genre.

I owe much of my compositional growth to George Flynn, who was always able to suggest the right things to listen to relative to whatever piece I was working on. He also stressed the notion of large-scale vision of a piece before getting into the specifics. While this was a technique that I did not use every time I composed, it was an important thing to learn because it has been an instrumental tool in cultivating new works at present for The Renegades.

Dr. Flynn was also very open-minded about my tastes and the direction I was headed musically. When he learned that I was not going to continue my classical composition education after DePaul, he never made me feel like I was making a bad decision. He was very willing to check out jazz-fusion records I brought in to lessons (a genre that he was less familiar with), and to help with the composition of my own jazz-fusion pieces. There is often a noticeable divide between jazz musicians and classical musicians, but Dr. Flynn just saw it all as music and taught me as a student of composition, not "classical music."

What was your winning Kleinman entry?

My winning entry was a four-movement mixed brass piece entitled *Deluge*, written for four French horns, and four trumpets in Bb. While each of the movements has its own mood, tempo, etc., a common element is the use of odd-time signatures and difficult polyrhythms. It is my belief that any time signature or rhythmic figure can be equally effective and equally playable if it is used wisely, and not just "for the sake of being virtuosic."

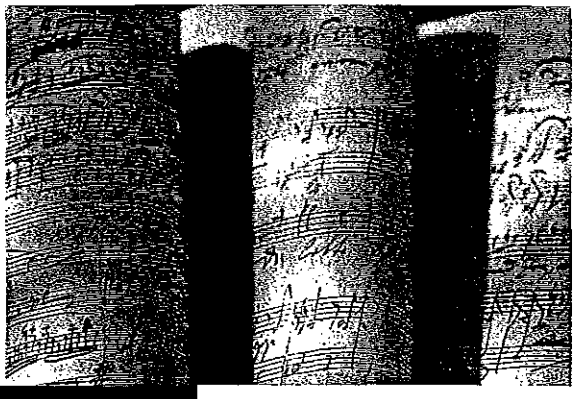
How has the Kleinman Competition affected your career? What do you think about composition competitions in general?

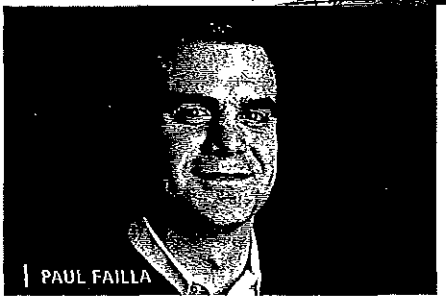
Truthfully, the Kleinman Competition affected me the most at the time that I wrote the piece. The instrumentation requirements were to write something for a group of instruments that I had not previously written for. This challenged me to research the brass family more exclusively. I entered many composition contests during my years at DePaul, and I think that the benefit of these competitions, in general, was that they created an immediate need for further research on the instrumentation required. This concept is something that I put to use in my current musical profession because, in the jazz/pop/studio world, listening to recordings is such a crucial component of learning to play and compose in the style.

What are your current composition endeavors?

Currently, the bulk of my original compositions are written for The Renegades, a group comprised of guitar, keyboards, bass, and drums. The compositional processes used for writing for this group stem from many genres of music that I've studied, both in school and out. Much of the harmony stems from "traditional" jazz harmonies used by the likes of Wayne Shorter or Herbie Hancock, but used in a less diatonic/functional way, *a la* modern jazz greats including Seamus Blake, Larry Goldings, and John Abercrombie. Other times, the harmony will come from 20th century classical influences such as Varese, Stravinsky, Berio, etc. While the instrumentation is fixed with The Renegades, orchestrating and arranging a tune is always an enjoyable challenge and often leads to varying results.

PAUL FAILLA ('99), won the Kleinman Prize in 2002. He is completing his doctorate degree in music composition at Northwestern University and lectures at DePaul, teaching a section of Understanding Music (MUS101) for non-music majors. Failla grew up in the mountains of Virginia and came to DePaul in 1995, mostly to "experience big city life and to take lessons with the best piano teacher I could find." DePaul fit both criteria, as he was able to study with Dmitri Paperno and to live in Chicago.





PAUL FAILLA

SUBMISSIONS FOR THE FIFTH ANNUAL SIDNEY AND MARY KLEINMAN PRIZE *in Composition are due to the Office of the Dean, School of Music, DePaul University, 804 W. Belden, Chicago, IL 60614, on or before May 1, 2005. For details, contact Pat Mikos, Executive Assistant to the Dean, at pmikos@depaul.edu or 773.325.7257.*

How did your DePaul education help you as you were finding your compositional "voice"?

The DePaul School of Music features a small and special composition program, and has earned a reputation for steadily producing skilled composers who take interesting and personal approaches to writing all kinds of music. Most composition programs tend to have a "house style" where all the students are encouraged (consciously or not) to write the same types of music as their professors. DePaul's composition faculty is diverse and open-minded, and encourages the development of a personal and individual voice from each student, not an easy thing. My own experience is typical:

Jeff Kowalkowski, my first composition teacher, supported and encouraged any style or kind of music that we wrote. Especially valuable were the performances and recording sessions he organized for us, after which we would all sit down and discuss the results of each piece together.

George Flynn was my mentor. I doubt I would have pursued composition to the extent that I have without his advice, encouragement, and direction. His unique sense of humor, passion for music and teaching, and incredibly strong work ethic always made him a pleasure to be around and learn from.

Kurt Westerberg is another composer to whom I owe a huge debt of gratitude. He introduced me to the music of many of my favorite composers today. I remember most his orchestration, counterpoint, and analysis classes. He would bring in scores for the class to study, and let us see what we could find and discuss as a group. Kurt would always allow us the time to figure things out for ourselves. They were the most effective classes I have ever taken, and gave me a huge edge in grad school. My current teaching methods reflect Kurt's approach in their penchant for structured self-learning.

I only took one class with Tom Miller, an electronic music composition class, but it left a strong impression. In grad school, I continued to develop my growing interests in this area, and it now plays a huge role in how I write and think about music. I trace these initial interests back to Tom, who showed me I had the capacity to work in this way at a time when it felt impossible.

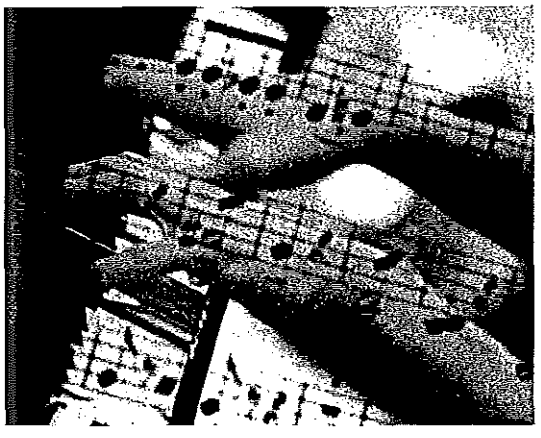
What was your winning Kleinman entry?

My winning entry was composed for full orchestra, about 70 players, entitled *Cluster Bombs*. It's about seven minutes in length. I've never heard it. It's never been performed, which is not surprising. The symphony orchestra is a medium barely accessible to most well-established composers, and young, "emerging" composers in America have even less opportunity to realize a performance of a new orchestral work. As a result, I view writing traditional orchestral music as a waste of time, and will not do so again unless I am directly commissioned to write a piece which ensures a performance and recording of the work. In the meantime, I have turned to computers/samplers to realize my newest orchestral works, where I

continue to work with the sounds of the orchestra, which I love, while avoiding the cultural pitfalls of this highly exclusive and conservative medium.

How has the Kleinman Competition affected your career? What do you think about composition competitions in general?

Well, winning this competition certainly gave me more confidence and additional motivation to keep on writing music. In general, there seems to be so little interest, support, and encouragement for art composers in American society today that it's very easy to get discouraged. This competition, as well as others like it, helps to offset this overwhelming lack of interest, and it sends a message to composers that some people still care a great deal about the creation of art music, and are willing to make sacrifices to ensure its survival down the road. I am very grateful to the Kleinmans for this reason, and admire their passion and desire for new music.



What are your current composition endeavors?

I was recently commissioned to write a piece for marimba and electronics, and am having a lot of fun working on it. It was completed in January and will be premiered in March of 2005. My wife is a cellist, and has been asking for a piece for a while now, so I wrote a solo cello piece for her that was premiered in January.

Another commission I've received involves the setting of a poem by Emily Bronte for soprano, violin, and piano. This will be performed and recorded in July 2005.

Finally, I have been working out the logistics and writing music for numerous indoor and outdoor large-scale sound installation projects over the past couple of years, involving both live performance and electronics. Much like the artist Christo, I am interested in finding large spaces and using them as a canvas: music designed specifically for a particular geographical location and community for a short period of time. They are designed to bring people outside and give them something to enjoy, or in the least, to talk about. I hope to realize one of these projects in the next couple of years.

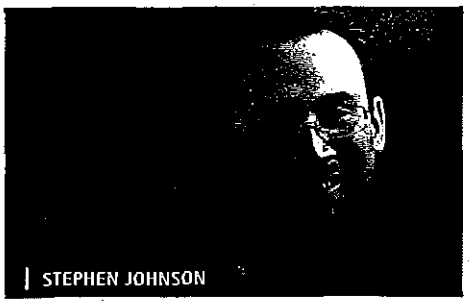
STEPHEN JOHNSON (MM '00) won last year's Kleinman Prize. He came to DePaul in order to study with George Flynn. After finishing his degree, he moved to Los Angeles to study composition at the University of Southern California.

How did your DePaul education help you as you were finding your compositional "voice"?

The two faculty members who helped me the most were George Flynn and Kurt Westerberg. They allowed me to develop my own voice while still encouraging me to refine my style.

What was your winning Kleinman entry?

My solo piano composition, *Four Preludes of the River*, was written for my wife, Michelle Johnson ('98). Her doctoral lecture recital at the University of Southern California last fall featured USC composers, including two faculty members and me. *Four Preludes of the River* is an exploration of writing for the



STEPHEN JOHNSON

piano in four different ways. The titles are inspired by a poem by Allen Grossman, but are not programmatically set to that poem. There are aspects of the poetic imagery that reflect my thoughts while writing the pieces, which I have shown in my choices for the nature-like movement titles.

How has the Kleinman Competition affected your career? What do you think about composition competitions in general?

Winning the Kleinman Competition is a wonderful honor. Competitions help to give performance opportunities, and thus awareness of what other composers are writing.

What are your current composition endeavors?

I was recently appointed an assistant professor of theory and composition at The Master's College in Santa Clarita, California. I was commissioned by the school to write a work for choir and orchestra that is scheduled for a performance this spring. My dissertation, *Sand Traces*, scored for flute, clarinet, violin, cello, percussion, and piano, premiered on November 14, 2004.

LISTENING TO 20th CENTURY MUSIC

The listener is usually most comfortable with styles, harmonies, timbres, etc. which are familiar. Listening to 20th century music provides many new challenges and opportunities to experience unfamiliar styles, and requires a different approach to listening.

The most important aspect is to discover the composer's point of view. What did he or she intend to do in a particular piece of music? Then evaluate whether this intent was accomplished. If so, the music is valid and successful in fulfilling the composer's goals. (This evaluation is separate from the listener's own personal taste. Whether I "like" it is <u>not</u> the point.)

If the music under consideration is totally non-traditional and cannot be evaluated or described using familiar terms, the following list may be used. Remember that the presence or absence of any one of these characteristics does not in itself indicate good quality or the lack of it in a composition. (Many composers do not want a sense of "direction" in their music, for example.)

DIRECTION — A flow or increase of tension through one or more means including dynamics, tempo, texture, activity, pitch range, etc. If the work tends to grow and move toward a goal (achieved or not), it has direction.

CLIMAX — The result of direction; a spot or section that is the highest, loudest, or fastest--or sometimes slowest, thickest--that seems to be "IT".

MOOD — A noticeable regularity of an idea, such that a constant "feel" can be determined, whether or not an actual word can be applied to describe it.

DRAMA — This involves suspense, a significant "shock" or turn in the music at unexpected points. This turn should be carefully defined so as to be distinguishable from the shock an uninitiated listener might receive on on hearing the first notes of the work.

STYLE — A consistent approach to the elements present in the particular music example; it is a recognizable coherence. Style in this sense should be separated from "stylish." The listener should not be concerned with whether the composer's style is recognizable and accepted, but with whether the individual work's own language or style is consistent in and of itself.

20th Century Melody

1. 20th Century melody appears in a vast diversity of styles and techniques.

2. 20th Century melody often makes use of:

   A. extremely wide pitch range
   B. unusual intervals and difficult leaps
   C. a wide variety of scales/modes
   D. free tonal movement, of two basic types:
      + atonal melody, without a key center
      + melody in extended tonality using all 12 diatonic and chromatic tones

3. Contemporary melodies range from:

   A. extreme complexity to simplicity
   B. fragmented structure to long, flowing lines

Melodic details from various composers:

Ravel's melodic style, traditional in structure, reflects his interest in modality and impressionism.

Stravinsky's neoclassical melodies tend to circle around one or two tones.

Berg's melodic style, built on 12-tone methods, often has, nonetheless, thematic character and a suggestion of tonality (tonal center).

Hindemith's melodies are generally in neo-Baroque style. Diatonic and motivic, they are often suited to contrapuntal development.

Bartok's melodies are often in freely fluctuating modal style, marked by constant rhythmic variation.

Prokofiev's melodies often combine flowing lyricism, sudden tonal shifts, and dramatic wide leaps, in a highly individual manner.

Ives's melodies often represent a distinctly original mingling of modern techniques with a spirit of serene introspection.

20th Century Harmony

In 20th Century Harmony, **the departure from traditional practice** (circle progressions, etc.), has led to the development of many new styles and techniques. Some are listed below.

1. One basic modern approach involves **the use of traditional chords:**

   A. as **pure sonority** -- chords are used for color or atmosphere, rather than functional roles (ii-V-I)
   B. **without preparing or resolving dissonances**
   C. in **shifting tonalities:**
      + with chords leaping into and out of various keys -- with no necessity to resolve in the key
      + around a given key center, with roaming harmonies called **escape chords**
   D. in **parallel motion** -- including triads, 7th chords, and 9th chords

2. **Expanded tonality** involves the absorption into a key of diatonic and altered chords borrowed from other keys. (more than 7 chords used in the key)

3. Except for major and minor, the **Dorian, Aeolian, and Mixolydian modes** provide the greatest variety of chord progressions of all the modes.

   A. To define the character of a mode, it is necessary to emphasize its distinctive steps and chords.
   B. In the modes, because of the **equal importance of all chords except I**, emphasis on tonic harmony is necessary to establish the tonality. (No dominant or leading tone functioning.)

4. The **Whole-Tone Scale**, used in early 20th century music:

   A. consists of 6 whole steps
   B. has augmented triads on all scale degrees
   C. has a certain sameness of harmony (ambiguity), due to its uniform chord structure

5. In 20th century music, **mixed modes** appear more often than pure ones.

20th century (vertical) chord formations include:

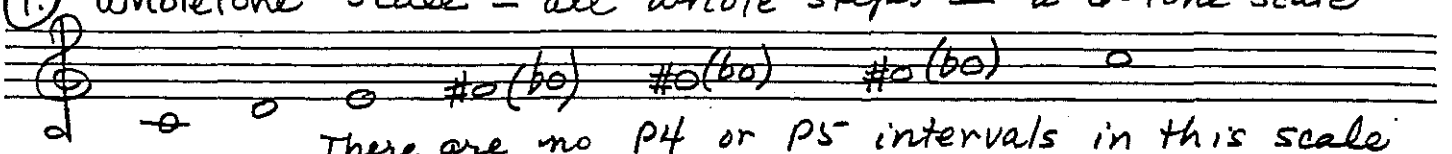
1. **Eleventh chords** (5 superimposed 3rds) and **thirteenth chords** (6 superimposed 3rds)
2. Chords with **added tones** -- neighboring tones joined to triads (added 2nd, 4th, 6th, 7th, or 9th)
3. Chords of **superimposed 4ths (quartal harmony) and 5ths**
4. **Major-minor triads** -- triads or 7th chords containing **both major and minor thirds** above the root, the differing thirds usually separated by a diminished octave
5. **Polychords** -- two superimposed diatonic chords
6. **Tone Clusters** -- tightly-packed groups of major or minor seconds

20th century (horizontal) harmonic practices include:

1. New **non-traditional chords used in parallel motion**
2. **Contrapuntal parallelism** -- two groups of parallel chords moving independently of each other
3. **Polytonality** -- two series of tones or chords moving simultaneously in different keys
4. **Atonality** -- music without a key center, in which no chord or tone acts as a tonic or focal point:
   + in one type of atonal music, melodies and chords move **freely**, independently of traditional harmony
   + in another type, melodies and chords are derived from the **12-tone row** in a strictly determined pattern

20th Century Harmony

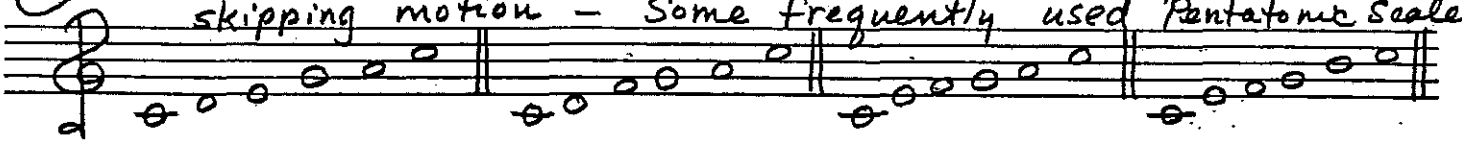
(1.) Wholetone Scale – all whole steps — a 6-tone scale



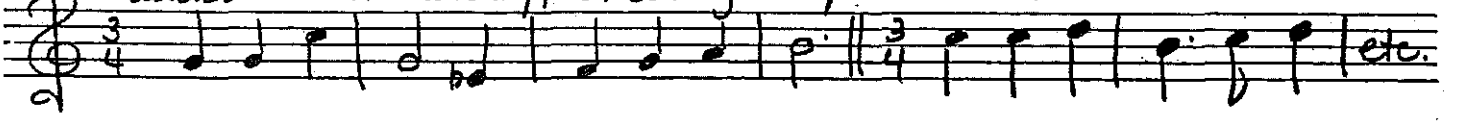
There are no P4 or P5 intervals in this scale
There is no tonic note or tonal center.
Harmony resulting from scale is the Augmented triad.

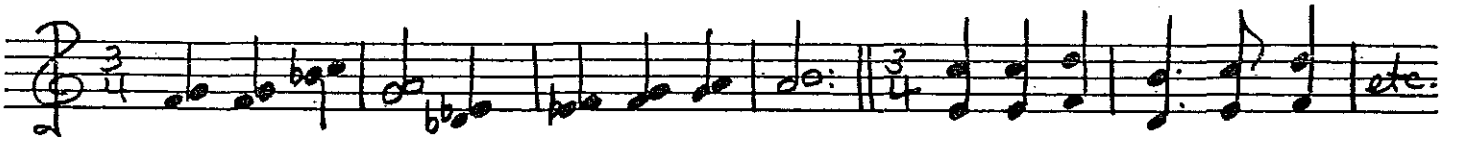
(2.) Medieval or Gregorian Modes — 7-tone scales
see accompanying sheet

(3.) Pentatonic Scale — a 5-tone scale, with stepwise and skipping motion – Some frequently used Pentatonic Scales.



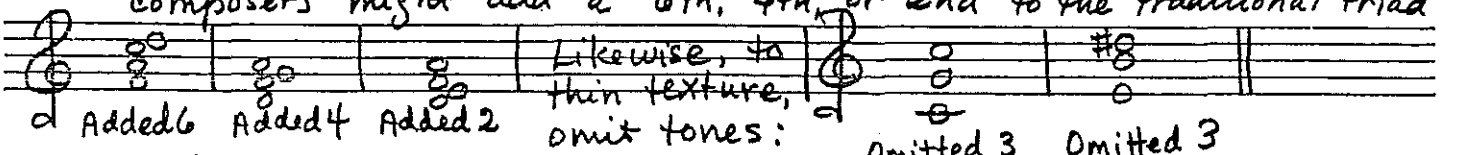
(4.) Melodic Doubling in Parallel — a tone or tones may be added with melody, creating a parallel harmonic motion





(5.) 9th, 11th, 13th chords — see notes

(6.) Chords of Omission and Addition — to thicken the sonority, composers might add a 6th, 4th, or 2nd to the traditional triad



ADDITION

A. If a chord is made up of a triad only with an added note (6, 4, 2) the chord is definitely an added-tone chord.

B. 7th chords may sometimes contain added tones, but 9th, 11th, and 13th chords already contain a number of tones, and added tones would only be confusing and ineffective.

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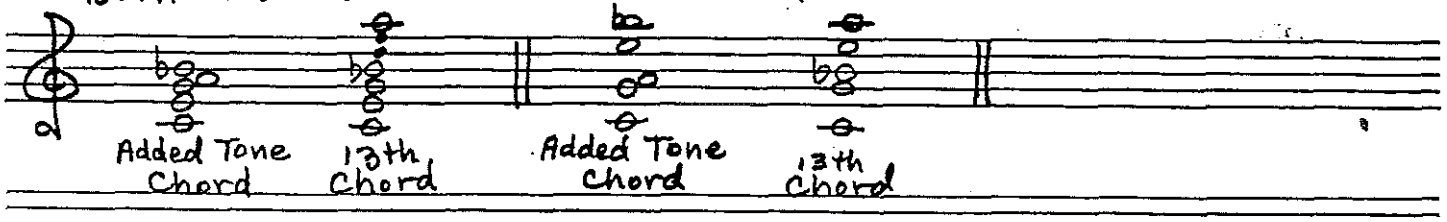
C. Distinguishing between 7th chords with an added tone and 9th, 11th, or 13th chords depends entirely upon the arrangement of the chord. In 9th, 11th, and 13th chords, the highest factor is usually in the upper voice, and, when in this position, the characteristic nature of such chords is clearly emphasized.

D. When the highest factor (9th, 11th, 13th) is in a lower voice, the tendency is to hear it as a tone added to a 7th chord.

E. When a chord is given an added tone, one of its factors is often deleted.

BOTH chords contain the same tones:



CHORDS OF OMISSION – Thinning the Texture

Triads: the 3rd is the only factor of a triad that may be deleted to form a chord of omission. Omitting the root destroys the identity of the chord; omitting the 5th isn't particularly noticeable in thinning the texture.

7ths: the 3rd is omitted to thin the texture

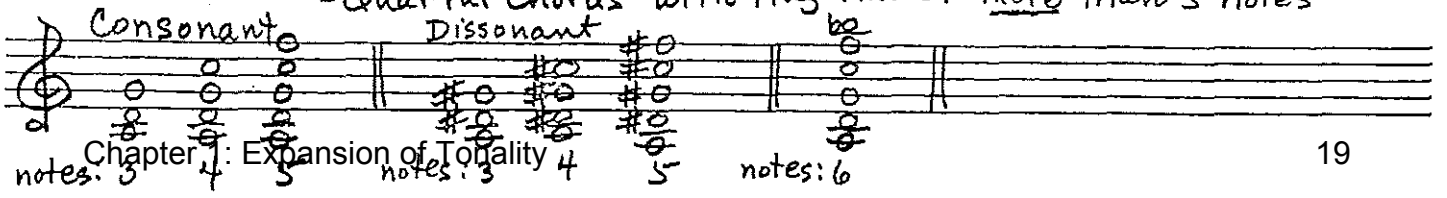
9ths - 13ths: omission of one tone doesn't thin texture

CHORDS OF ADDITION & DELETION: deletions often are used to heighten the effect of additions. Chords with both are called Chords of Addition, regardless.

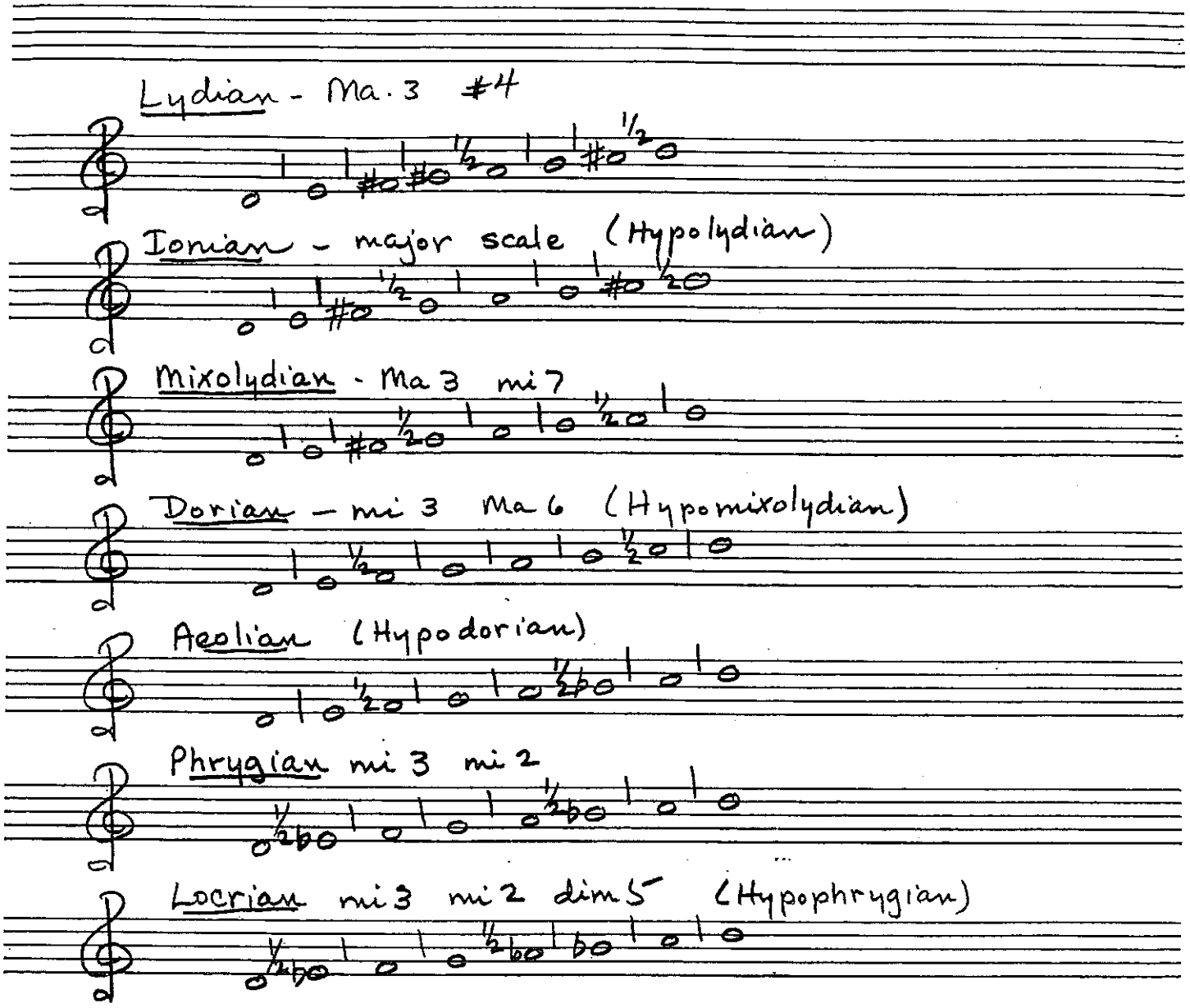
(7) QUARTAL CHORDS: chords built in 4ths

Consonant Quartal Chords: 3 to 5 note chords in P4's

Dissonant Quartal Chords:
- Quartal Chords with Aug 4ths or more than 5 notes



Modes - Medieval



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TRISTAN UND ISOLDE

In his stormy personal life, Richard Wagner remains the prototype of the late-romantic artist. Indeed, his *Tristan und Isolde* was inspired in part by the composer's romantic attachment to the poetess Mathilde Wesendonk, the beautiful wife of a silk merchant in Zurich who assisted Wagner during one of his recurring financial crises by giving him room, board and cash. During the courtship, Wagner set five of Mme. Wesendonk's verses to music, two of which — *Träume* and *Im Treibhaus* — he later used as leitmotifs for *Tristan's* love music and the prelude to Act III. Perhaps the sense of unfulfilled desire that permeates the score of Tristan derives in part from the composer's own anguish of that time.

More important to *Tristan und Isolde,* however, was Wagner's revolutionary feeling about the musical theater, its style and dramatic form. He sought to create a new art form — not opera — in which words, music and action would become indivisibly one. He termed the form *Gesamtkunstwerk:* total art work. To compose *Tristan,* which in dramatic conciseness is the most perfect example of his concept, Wagner had to put aside work on a much larger project, the *Ring* tetralogy. With *Tristan* he planned to turn out a more practical work, one that could be easily produced, employing a small cast and an almost Spartan story line.

The idea for a music drama on the Tristan legend had come to Wagner as early as 1854, but he did not begin the score until 1857. (He completed the manuscript on April 8, 1859, while living in Lucern.) As usual Wagner wrote his own text, retelling the story of the Cornish knight first chronicled in an ancient Celtic romance set down during the twelfth century by Thomas of Britain. He was aided by a German version of his tale adapted by Gottfried von Strassburg in 1220.

In *Tristan und Isolde* Wagner unleashed an entire new vocabulary of harmony which has determined the course of music ever since. He literally revolutionized opera by placing the singers at the service of the drama and so elaborating the orchestral texture that each act became a symphonic poem in itself. His daring expansion of the borders of tonality, his use of restless, yearning chromatic suspensions and unresolved chord progressions, caused many of his musical contemporaries to judge him mad. But it was not long before the world came to understand what he was striving to achieve, and the twelve-tone system of composition developed early in the twentieth century by Arnold Schoenberg could not have been conceived except on the basis of *Tristan,* a milestone in world art.

The world premiere of *Tristan und Isolde* took place at the National Theater in Munich on June 10, 1865. Schnorr von Carolsfeld and his wife sang the title roles, and despite their celebrity, the work had to be dropped from the repertory after three performances, so cold was the critical and public reception. Only the intervention of Wagner's patron, King Ludwig of Bavaria, prevented it from being cancelled after the first performance. A projected earlier production in Vienna was abandoned after fifty-seven rehearsals when the singers and orchestra insisted the music was both unsingable and unplayable!

Tristan und Isolde, nevertheless, made its way. The American premiere at the Metropolitan Opera House on December 1, 1886 proved an outstanding success. With Wagner's close friend Anton Seidl conducting, the production featured Lilli Lehmann (Isolde), Albert Niemann (Tristan), Marianne Brant (Brangaene), Adolf Robinson (Kurvenal) and Emil Fischer (King Mark). After that the work was given in the old Metropolitan Opera House on 293 other occasions. Among the most memorable performances there were those with Lillian Nordica and Jean de Reszke during the 1890's; those with Olive Fremstad about 1910, with either Gustav Mahler or Arturo Toscanini conducting; and those that starred the team of Kirsten Flagstad and Lauritz Melchior, Artur Bodanzsky at the helm, during the late 1930's. In recent seasons an outstanding Isolde was the Swedish soprano Brigit Nilsson, who made her New York debut in the part on December 18, 1959.

THE STORY

ACT I. Against her will, the proud Irish princess Isolde is being conducted by the knight Tristan over the seas to the court of his uncle, King Mark of Cornwall, whom she is to marry. Taunted by the songs of a sailor, she rails at her captor and, through her maid Brangaene, bids him come forward and face her wrath. When Tristan declines, Isolde tells Brangaene how, long before, he had fought with the Irish knight Morold, who had gone to Cornwall to collect the tribute due to Ireland, and to whom Isolde had been engaged. Morold had been killed, Isolde continues, and Tristan injured, and she relates how she made the mistake of nursing the knight back to health in Ireland instead of slaying him in vengeance. Recalling how Tristan repaid her tenderness by returning to claim her for his uncle, she concludes with a curse upon his head. Overwhelmed by shame and bitterness, the princess decides to drink a death potion, which she bids her maid prepare from a magic store bequeathed her by her mother. Tristan enters when the shouts of the sailors reveal that the ship is nearing land. Calling on him to atone for the murder of Morold, Isolde refuses to put him to death by the sword, as he suggests, but bids him drink the death potion with her. Meanwhile the horrified Brangaene has substituted a love philter in the cup that Tristan and Isolde now raise to their lips. After a pause they are overcome by the magic and yield to the passion that had hitherto been stifled. Aghast at what she has done, Brangaene rushes to separate the lovers as the ship approaches Cornwall, where they are greeted by King Mark's court.

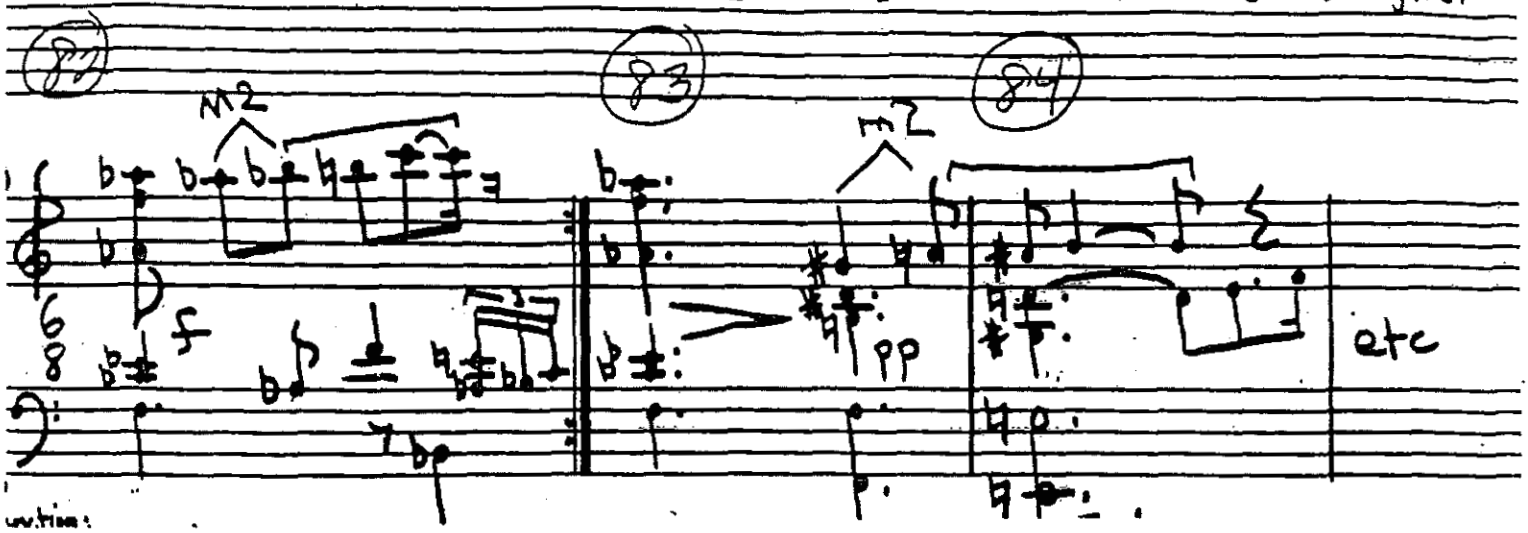
ACT II. In the castle garden, Isolde hears the horns of the king's hunting party recede into the twilight and tells Brangaene to signal Tristan that it is safe for him to enter. The princess absolves the maid of responsibilty for her act, bidding her now to keep watch for Mark's return. Tristan rushes in; the lovers exchange passionate declarations as they invoke the longed-for night to descend upon them. Lost in each other's embrace, they ignore Brangaene's repeated warnings that the hours are flying and so are surprised by the king, who appears with his party and halts in consternation. There is a long pause; day begins to dawn. At last Mark sorrowfully berates Tristan for his treachery, calling upon all to see how the truest of the true has proved false. Tristan, offering no defense, tenderly invites Isolde to share his dark future and, when she agrees, kisses her gently on the forehead. Mark's knight Melot draws his sword in fury and advances on Tristan, who drops his guard and allows himself to be wounded.

ACT III. Tristan awaits Isolde in his ruined castle of Kareol in Brittany, where a shepherd pipes mournfully to indicate that no ship can be seen. Lying on a couch, the knight wakes from a fevered sleep and turns to Kurvenal, the faithful servant who has brought him from Cornwall to recuperate from his wound. In his delirium Tristan assures Kurvenal of Isolde's return, painting a vivid picture of the ship that will bring her to him. After a while the shepherd's pipe is heard playing merrily. Beside himself with joy, the knight listens as his servant describes the actual ship's arrival, and when Isolde is sighted he wildly tears the bandage from his wound. She rushes in and Tristan dies in her arms. Mark and Melot, who have pursued Isolde, burst upon the scene and are engaged in battle by the grief-stricken Kurvenal, who slays Melot and in turn is mortally wounded by the king's defenders. The senseless Isolde is revived by Brangaene, who reveals that she has told Mark of the love potion and that he has come not to punish but to forgive. But the magnanimous king is too late. Isolde, gazing with rapture upon Tristan's face, breathes a final invocation and then sinks, lifeless and transfigured, upon his body.

Courtesy of Opera News

Structural Half-step in a tonal context

(m. 81-84) Tristan Prelude - Wagner



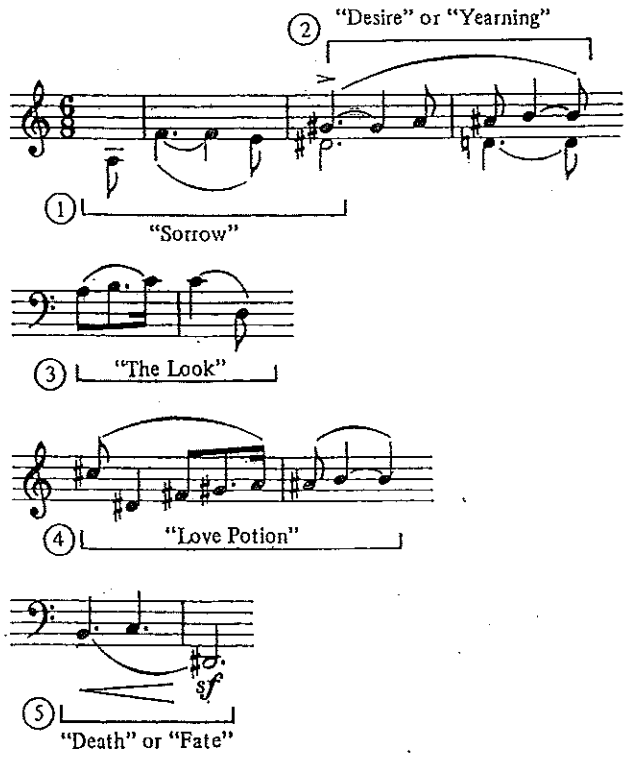
Richard Wagner

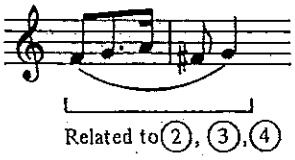
Richard Wagner (1813–1883) developed a unique form called the *music drama*—a synthesis of acting, poetry, music, costume and scenery that was almost symphonic in character and often of epic proportions. In these works, one musical-dramatic event leads seamlessly into the next, and the entire drama is intensely organized through a system of *leitmotifs*—musical figures usually related to a specific person, thought or feeling.

Wagner's "endless melody" comprises long, lyrical, expansive melodic lines with infrequent cadences. His intensely chromatic harmonies, elaborate obscuring dissonances, rapid tonal fluctuations, and deceptive or elided harmonic cadences helped to contribute to the breakdown of functional tonality toward the end of the century. Wagner's scores contain colorful soloistic passages and impressive massed choral and orchestral effects. Although not contrapuntal in the traditional sense of a fixed number of independent voices, his music has considerable polyphonic substance.

TRISTAN UND ISOLDE *Prelude to Act One and the opening of Act One, Scene One; Liebesnacht (mm. 46–67 of Act Two, Scene Two)* Piano reduction

A system of *leitmotifs* exists in *Tristan und Isolde*, Wagner's most influential work. Completed in 1859, this work is cast in a highly chromatic idiom in which identifiable tonal centers are frequently absent for extended periods. The Prelude to Act One introduces several of the *leitmotifs*. These motives have been named in accordance with their first appearance in the drama proper, but their significance is generally broader than the names would suggest.

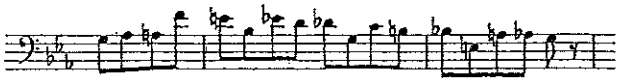




Can you locate their first, as well as later, appearances in the Prelude?

Harmonic analysis of the Prelude poses special problems. Much of it can be analyzed with respect to one of three different tonal centers. Can you identify them? Does any one tonal center predominate? (There is considerable debate as to the overall tonality of the Prelude.) While much of the music is characterized by dominant-sounding sonorities, there are relatively few points where these decisively resolve to the expected chord. Furthermore, the key signature appears to have little relevance to the music.

The Prelude leads directly into Scene One, of which only the opening measures are given. Two more important motifs are introduced here. One is associated with Isolde's anger at the young sailor's song, which she misconstrues as a slighting reference to herself:



Can you identify the other motif, which first appears in the sailor's song? Note the deceptive resolution at the very end of this excerpt. Such "resolutions" are typical of the entire drama.

EXERPT ONE: PRELUDE TO ACT I AND BEGINNING OF ACT I, SCENE I

Langsam und schmachtend.
Lento e languido.

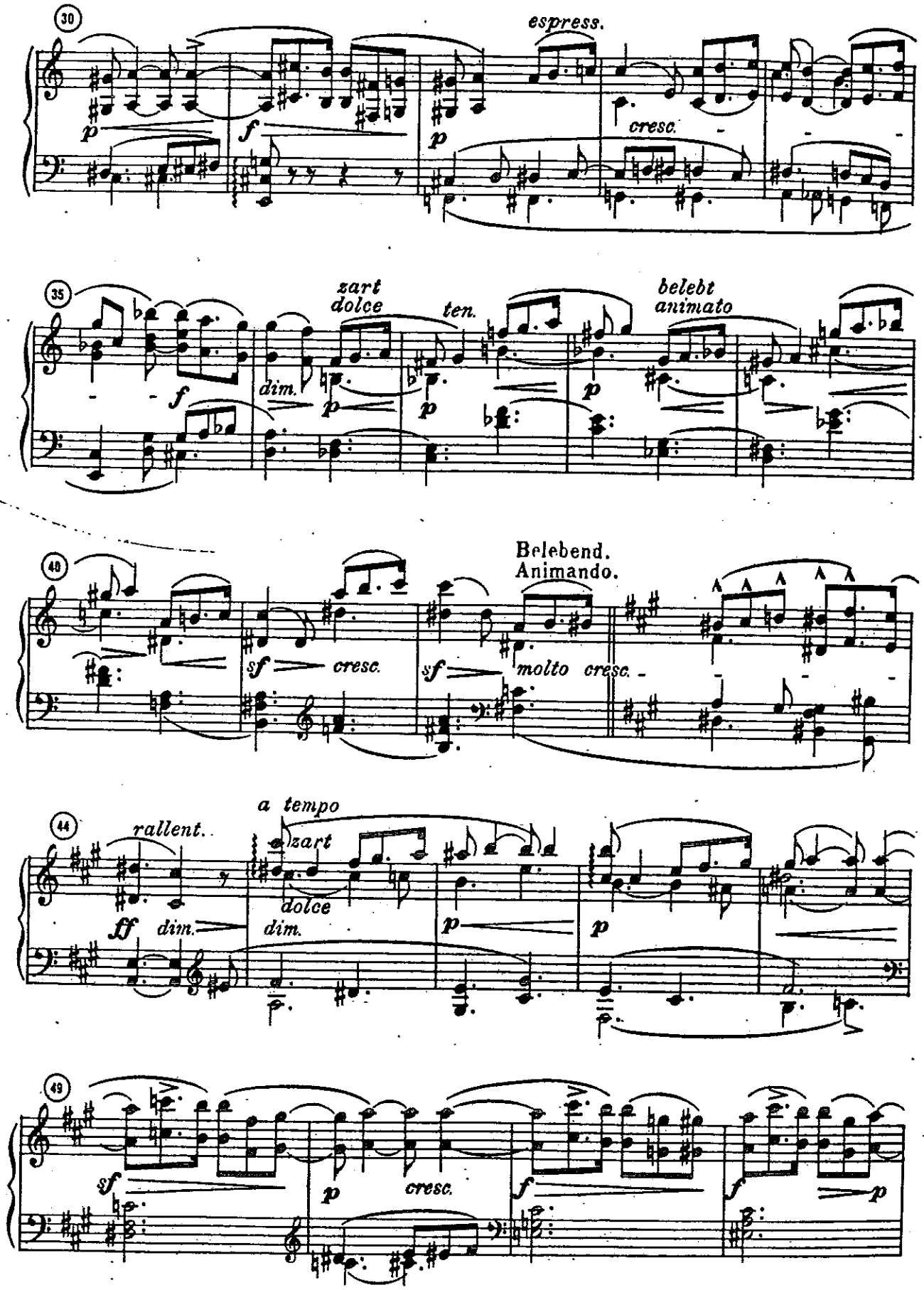
pp p p dim.

8 cresc. sf p p pp

15 sf più f ff p f

21 dim. p p poco rall. cresc. riten. f

25 tempo zart dolce dim. p dim. p cresc. f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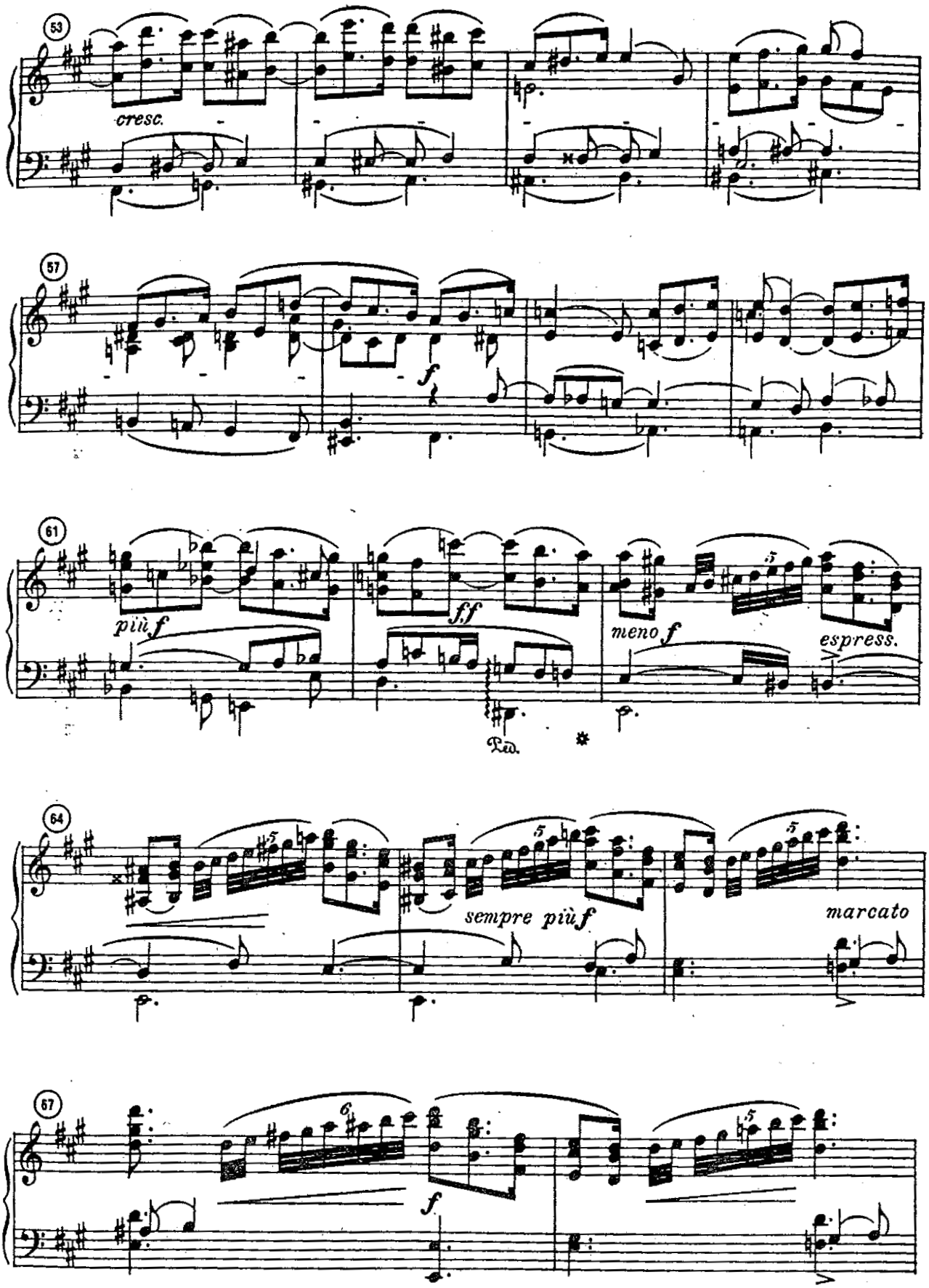
a tempo
zart
dolce
ff
dim.
dim.
p
p
49
sf
p
cresc.
f
f
p


53
cresc.
57
f
61
più f
ff
meno f
espress.
Ped.
64
sempre più f
marcato
67
f

69

f

71

più f

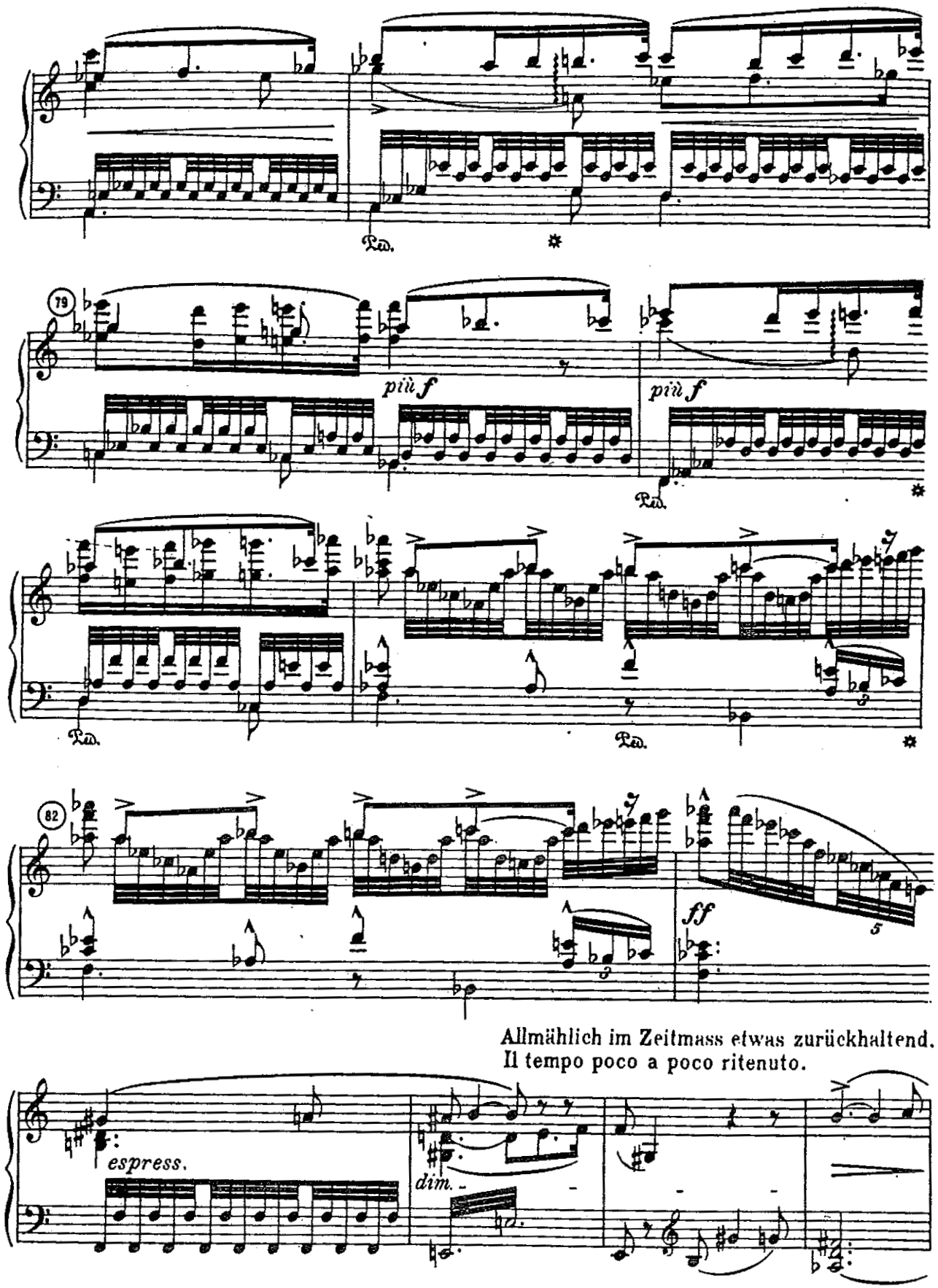
più f

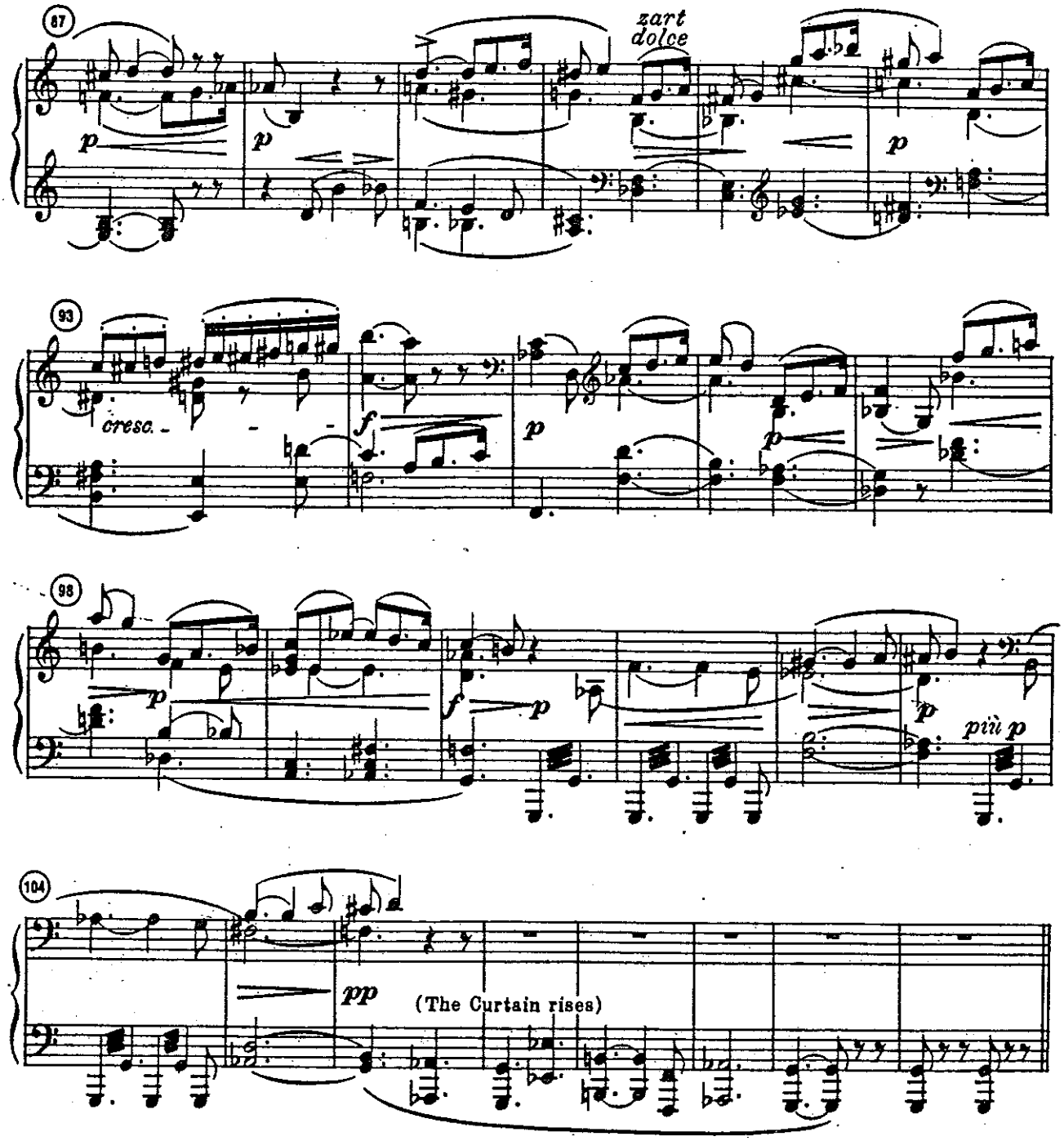
73

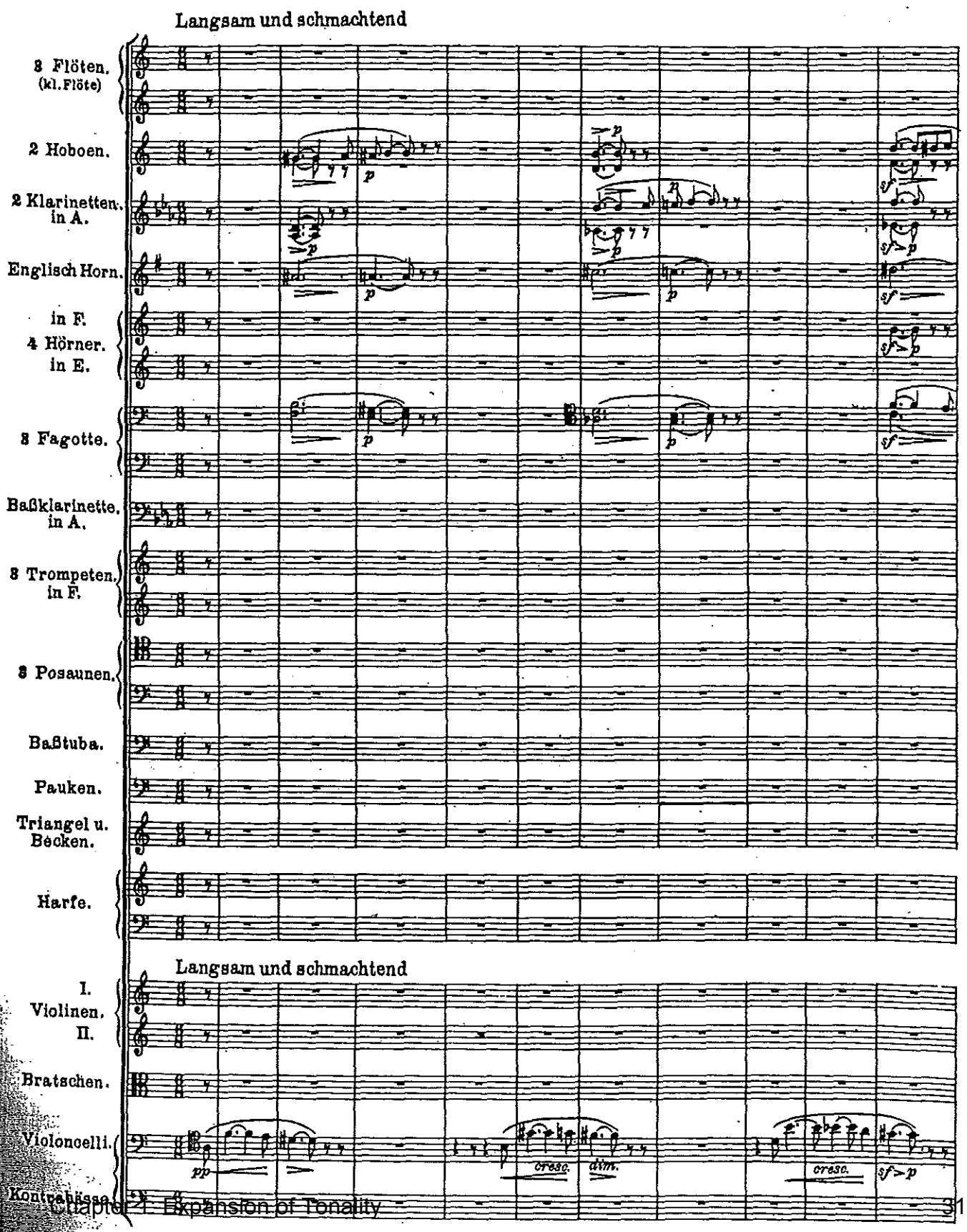
molto espress.

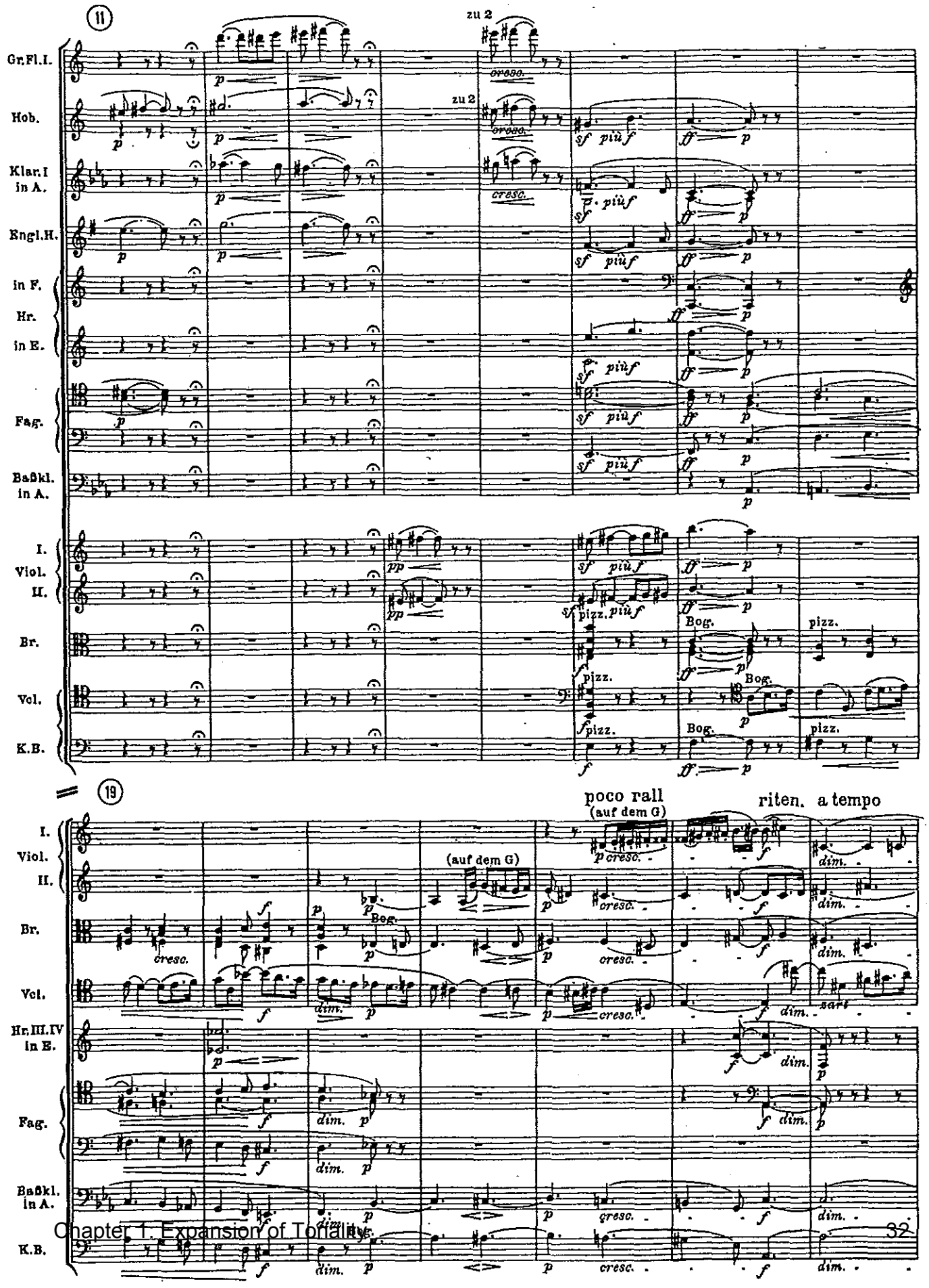
76

sempre f


79
più f
più f
82
ff
Allmählich im Zeitmass etwas zurückhaltend.
Il tempo poco a poco ritenuto.
espress.
dim.

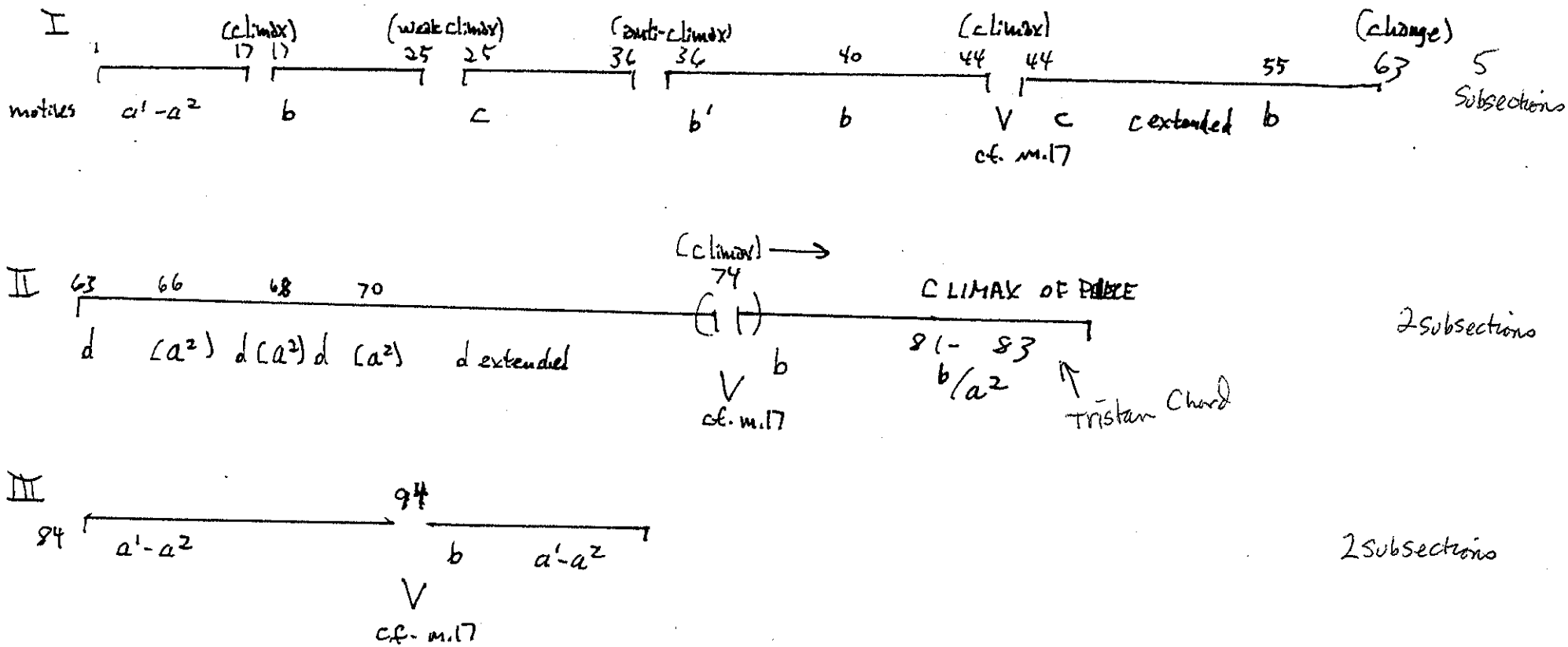

87
zart
dolce
p
93
cresc.
f
98
più p
104
pp
(The Curtain rises)


Einleitung
Langsam und schmachtend
3 Flöten. (kl. Flöte)
2 Hoboen.
2 Klarinetten. in A.
Englisch Horn.
in F.
4 Hörner. in E.
3 Fagotte.
Baßklarinette. in A.
3 Trompeten. in F.
3 Posaunen.
Baßtuba.
Pauken.
Triangel u. Becken.
Harfe.
Langsam und schmachtend
I. Violinen. II.
Bratschen.
Violoncelli.
Kontrabässe.
cresc.
dim.
cresc.


11
Gr.Fl.I.
Hob.
Klar.I in A.
Engl.H.
in F.
Hr.
in E.
Fag.
Baßkl. in A.
I.
Viol.
II.
Br.
Vcl.
K.B.
zu 2
cresc.
più f
pizz.
Bog.
19
poco rall
(auf dem G)
riten.
a tempo
dim.
sart

TRISTAN PRELUDE

FORMAL SECTIONS, USE OF MOTIVES



works up to climaxes, then backs off
m63 texture, harmony changes
No concluding cadences

Sectional Form – Statement / Departure / Return

Wagner--Prelude to Tristan and Isolde

Outline of Tonal Structure

Pitch names refer not always to "keys" in the standard sense, but to the influence of one pitch as a tonic or "tone of focus" without implying attachment to a major or minor key, even though major and minor references may occur

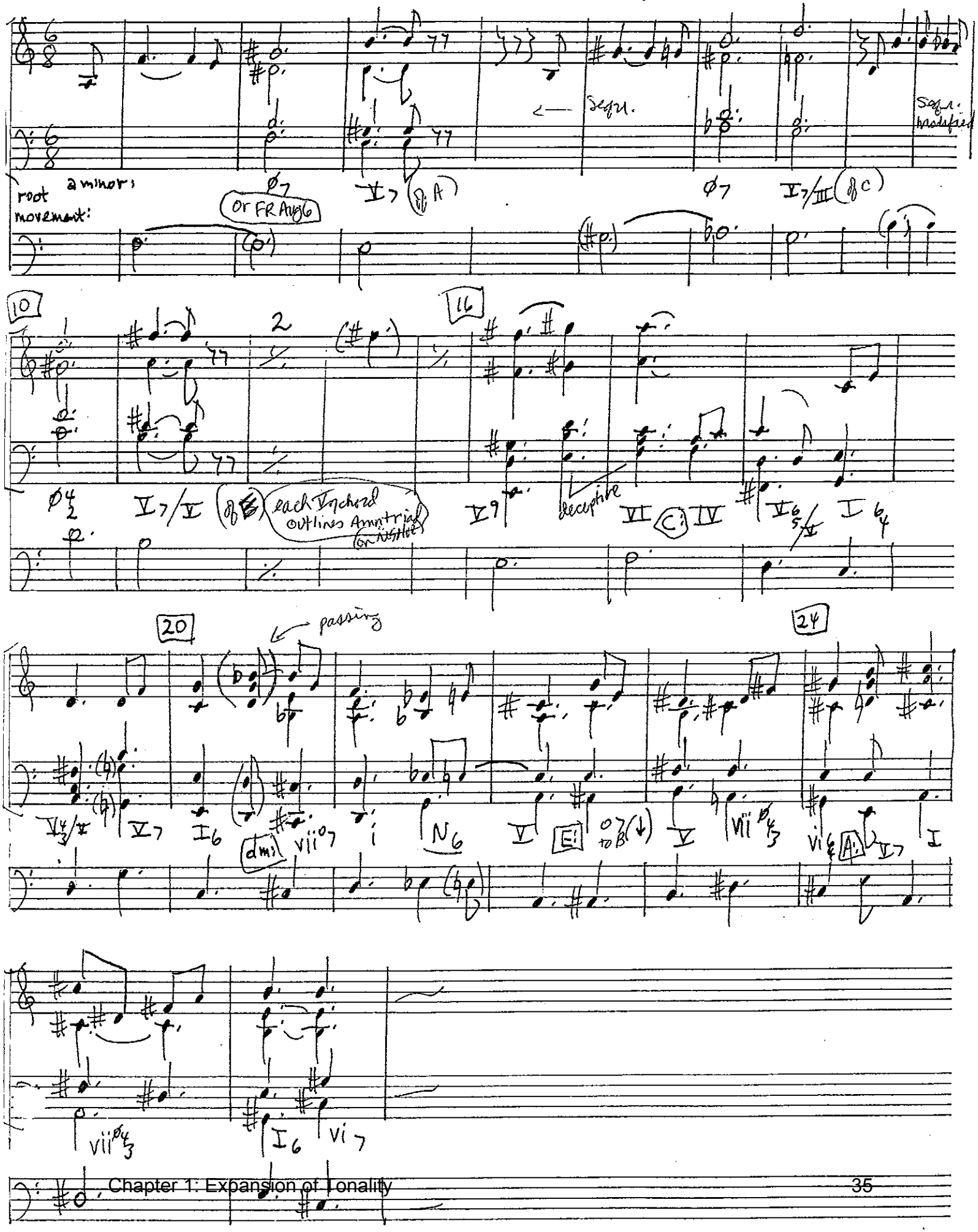
Main Tonal Areas (broad outline)

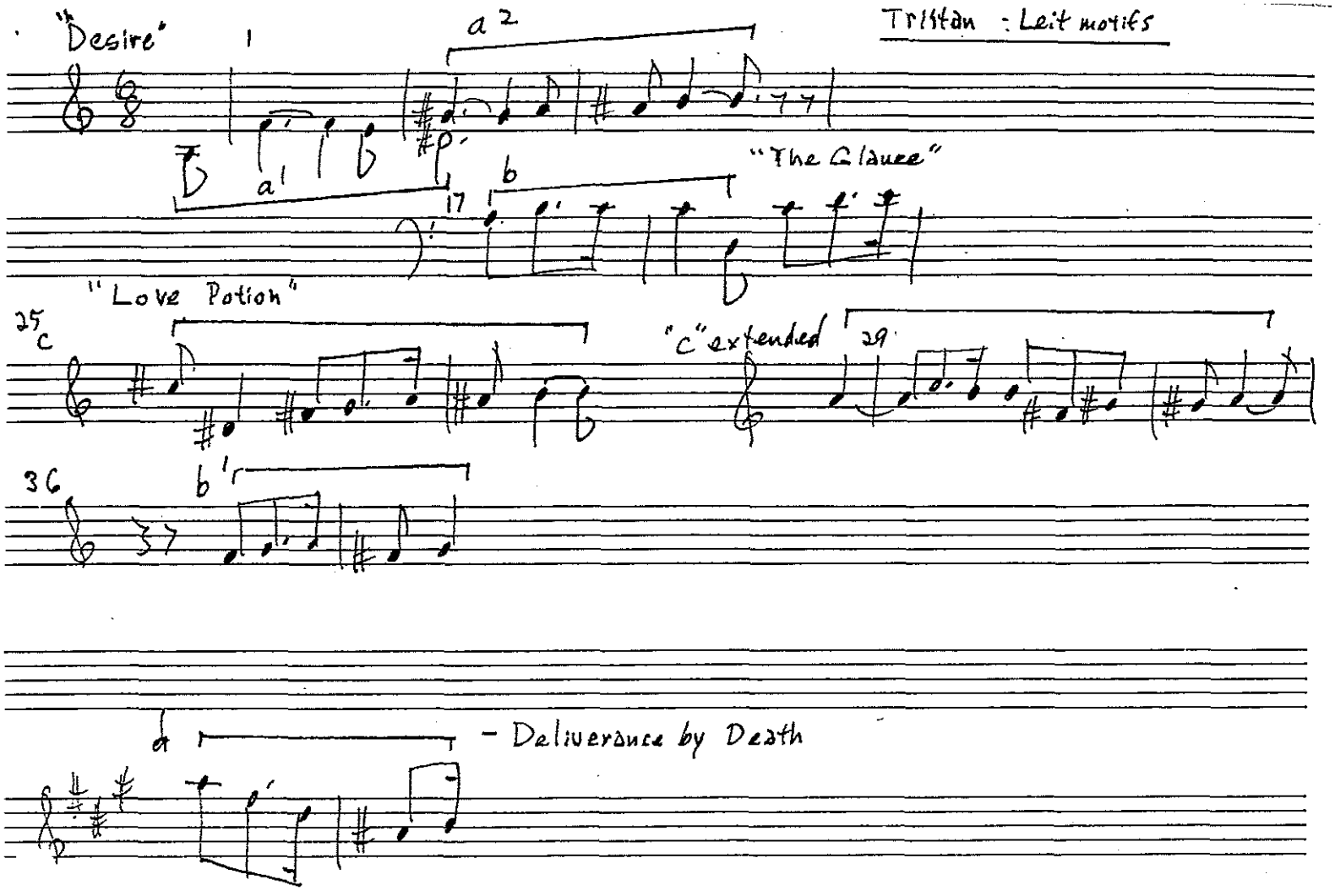
Meas.	Tonality
1-24	A
25-63	E
63-70	A
71-end	C (less stable than previous sections)

More Detailed Tonal Analysis

Meas.	Tonality	"Background Tonality" (cf. above)
1-17	A	A
17-20	C	
20-22	D	
22-24	E	
24	A	
25-30	E	E
31-32	D	
32-35	C	
35-36	D	
37-42	unstable--sequences of short tonal areas	
43-44	C#	
44-50	E	
51-53	D	
55-57	E	
57-59	A	
59-62	C	
63-70	V/A	A
71-72	C	C
72-74	A	
74-77	C	
78-79	Bb	
79-82	Eb	
83-97	A	
98-End	C (V/C)	

Tristan Prelude -- Chordal Reduction and Tonal Regions -meas. 1-26




Tristan : Leit motifs
"Desire"
1
a 2
a 1
17
b
"The Glance"
"Love Potion"
25
c
"c" extended
29
36
b 1

d
- Deliverance by Death

Seeing secret harmonies

Providence's architecture of the Golden Mean

NATALIE VAZ MacLEAN

HAVE YOU EVER walked in downtown Providence and wondered why the five buildings of the old Union Station (built 1896-1898) along Kennedy Plaza are so pleasing to the eye? They have a sense of proportion and harmony that is lacking from some of the newer downtown buildings.

In seventh grade at Nathanael Greene Middle School, when I was asked to do a math project for my geometry class, I thought that studying the proportions of these buildings might help me understand what made them so pleasing. Failing to find any background information at the Providence Public Library, my father and I went downtown and paced out the proportions. Now, four years after completing this project, while frequently pondering how my math class could possibly be of any relevance to the real world, driving by the old Union Station in the mornings on the way to school helps remind me how the seemingly unimportant formulas we learn in math enhance our world.

The five buildings are based on what the Greek mathematician and philosopher Eudoxus described as the Golden Mean, and its three components: the square, the root five rectangle, and the "golden rectangle." The golden rectangle buildings are at each end and are 31 by 50 paces. Inside them lie the two squares, 39 by 35 paces, and in the center, a building proportioned as a root five rectangle, 38 by 88 paces. All golden rectangles have similar proportions. They have a short side, "a," a long side, "b," in which the ratio of "a" to "b" is the same as the ratio of "b" to "a+b," and usually equal to about 0.6180.

In the case of these golden rectangle buildings, 31(a):50(b) equals 50(b):81(a+b). The root five rectangle is the long rectangle shown in the accompanying figure (and called "root five" because the ratio of (a+b+a):a equals the square root of five).

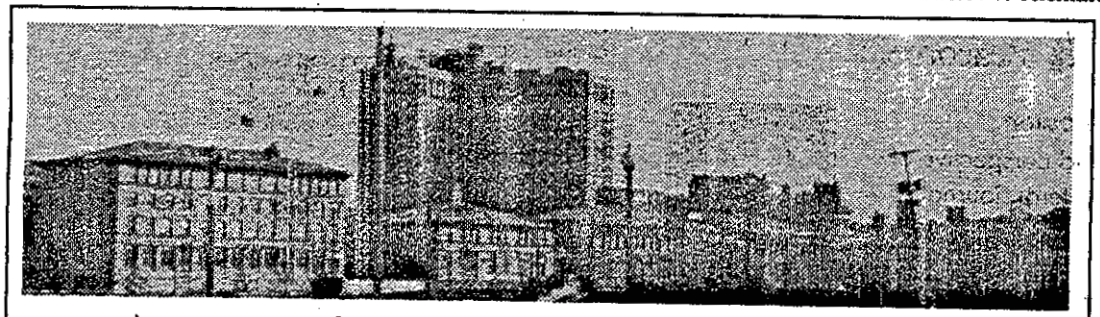
It is the assembling of all three of the components of the Eudoxus derivation that makes the five-building Union Station complex unique.

A golden rectangle is pleasing in a deeper sense because the a:b ratio also is the proportion of fractals, the fundamental way in which nature reproduces itself as it divides into smaller and smaller portions. For example, as we look at a branching tree, each successively outward limb on a branch shortens by the fractal proportion, a to b. Even our bodies are fractally proportioned; the length of our fingers "a" to the length of our hand "b" to the length of our forearm, "a+b," etc.

Downtown Providence is beautiful because of the attention its original architects paid to the mathematical and natural proportions discovered by Eudoxus and by others, such as Fibonacci, who described the fractal sequence. Our appreciation of this heritage and some understanding of its mathematical and scientific foundation will ensure that we will continue to design our city in a beautiful and harmonious way.

Hopefully, new structures such as the skating rink and Providence Place mall will adhere to these fundamental principles so that in the years to come they will be as pleasing to the eye as the old Union Station.

Natalie Vaz MacLean is in Grade 11 at Classical High School, Providence.



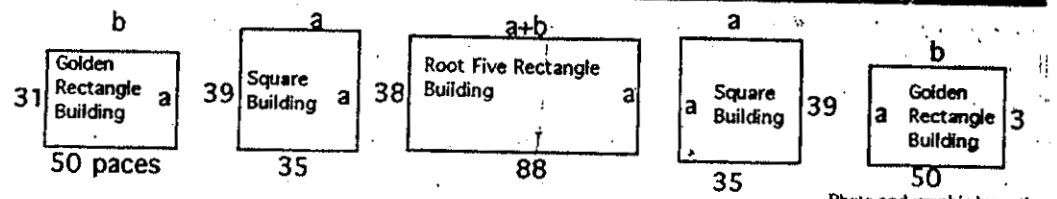


Photo and graphic by author.

The Golden Mean .618

The Golden Mean is a proportion used to organize visual art, nature, architecture, and music. The series of Fibonacci numbers are in these proportions -- adjacent numbers are in this ratio [approx. 2/3 or 3/5].

In writing a piece of music, or in analyzing the composition of someone, there should be a *focal point* at that point in time, considered by counting the measures/beats in the total piece and multiplying by .618. The focal point is distinguished by being either maximal or minimal in the piece: either highest pitch, thickest texture, loudest dynamics, some type of large accent, most striking instrumentation, etc.

-or- simplest pitch sonority, thinnest texture, most quiet dynamics, even going down to unison in the pitch, etc. Focal point highlighted by simplicity.

Something should be done to call attention to the focal point, Golden Mean, .618.

Then in longer pieces of music, changes in texture, instrumentation, dynamics, etc. will happen at measure numbers or beat numbers AND numbers of parts in the texture will change at the numbers of the Fibonacci series.

Example: 0 : 1 : 1 : 2 : 3 : 5 : 8 : 13 : 21 : 34 : 55 : 89 : 144 etc. Introduction of a long choral piece is 3 meas. long and is in monophonic texture [1-part]. One voice part enters at end of 3rd measure. First hearing of two-part texture is in 5th measure, at 8th measure, first 4-part texture, etc. Each of these is in the Fib. series.

Also, in larger terms, there is the Golden Mean, .618 from the beginning of the piece. Likewise, some composers have some lesser focal point at the 1/3 point [.618 from the end of the piece]. Halfway point is also occasion for a significant event in the piece.

Grand exception to all this is Richard Strauss's ALSO SPRACH ZARATHUSTRA [also known as 2001 Space Odyssey]. Strauss basically blew it by building up to a huge focal point near the beginning of the piece. Then the piece rambles on incoherently forever, with nothing of significance left to say.

Some composers utilize more traditional number systems as source material for various parameters of compositions. The Fibonacci series, for example, has been used for pitch, rhythm and timbre control. The series (based on Leonardo Fibonacci's mathematical discoveries of the thirteenth century) creates each new number in its series by adding the previous two (e.g., 1, 1, 2, 3, 5, 8, 13, 21, etc.). As one goes higher in the series a special numerical relationship is created between successive entries. This is known as the "golden mean" (or "section") and, while impossible to express in a pure stable state (each new entry will vary the results), a traditional model averages to .618.[20] Obviously works whose structure and substance derive from Fibonacci series construction have significant "golden mean" import.

György Doczi, for example, using the principle that *proportion* draws things in nature together, creates parallels between architecture and music. Figure 5.11 shows how this translates from different expressions of the *golden section* (another phrase formed from the Fibonacci series).

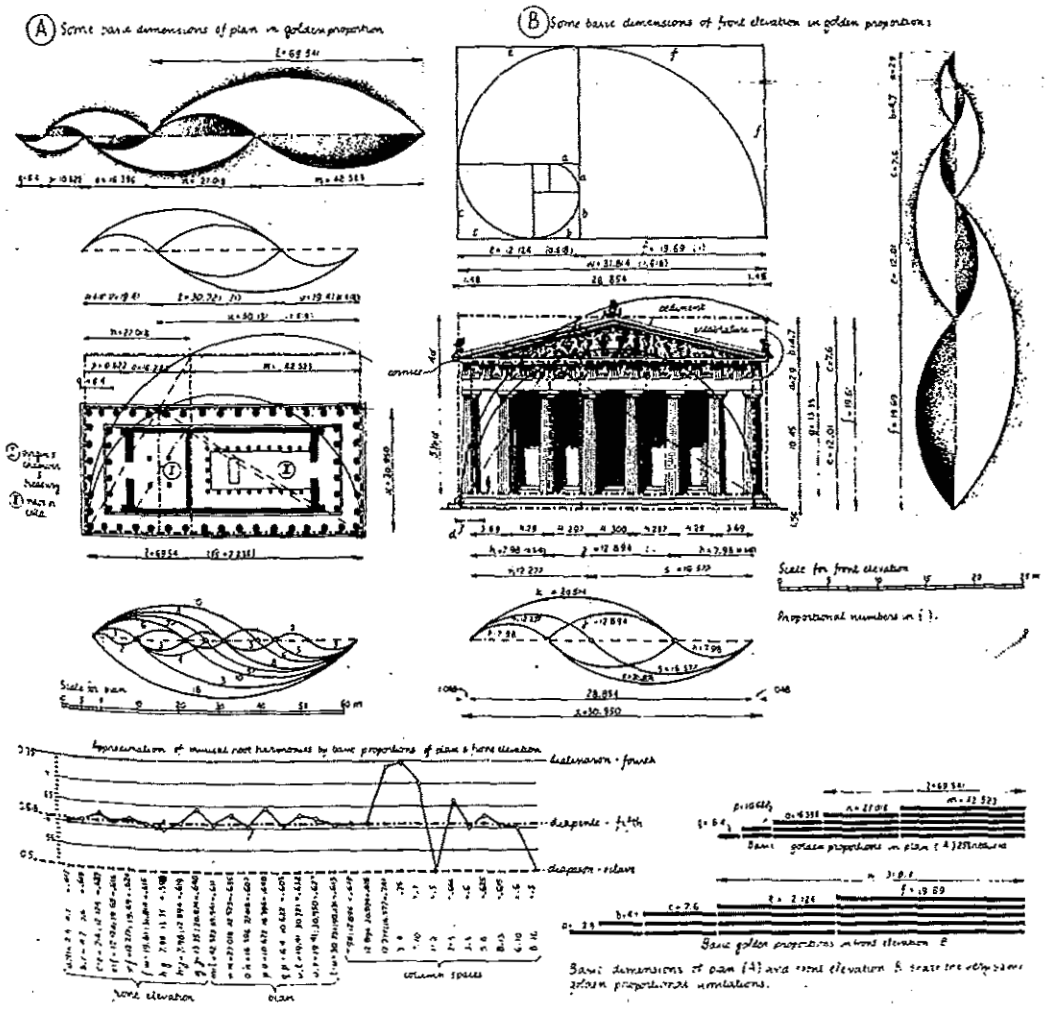


Figure 5.11. From György Doczi's *The Power of Limits*, a view of the Parthenon (Athens) from the perspectives of the golden mean, architecture and music.

20. A number of aestheticians argue the validity of this mean as a conscious or unconscious source of inspiration for many great works of art.

He bases the projections on the proportions of .618, .75 and .5 which he terms diapente, diatessaron and diapason, respectively (translated into the fifth, fourth and octave). In other examples in his visionary book, *The Power of Limits, Proportional Harmonies in Nature, Art and Architecture,* Doczi compares musical root harmonies in galaxies, pine cones, and the human body. Abstracted, as the proportions are in this book, these balances seem appropriate to his schematics. In reality, however, the wandering lines lack any truly musical form or rhythmic direction. He is not the first to make such comparisons, however. Johannes Kepler, a pre-eminent astronomer of the 17th century held that proportions between the planets (*Harmony of the Spheres*) produce musically harmonic motion. Philosopher Robert Fludd (England) suggested a "tuning of the universe" in his two illustrations from *Utrisque Cosmi Historica.* The figure on the left (see Figure 5.12) refers to the dark foreboding and confused world of earthly man, while the one to the right shows the proportionately balanced universe.

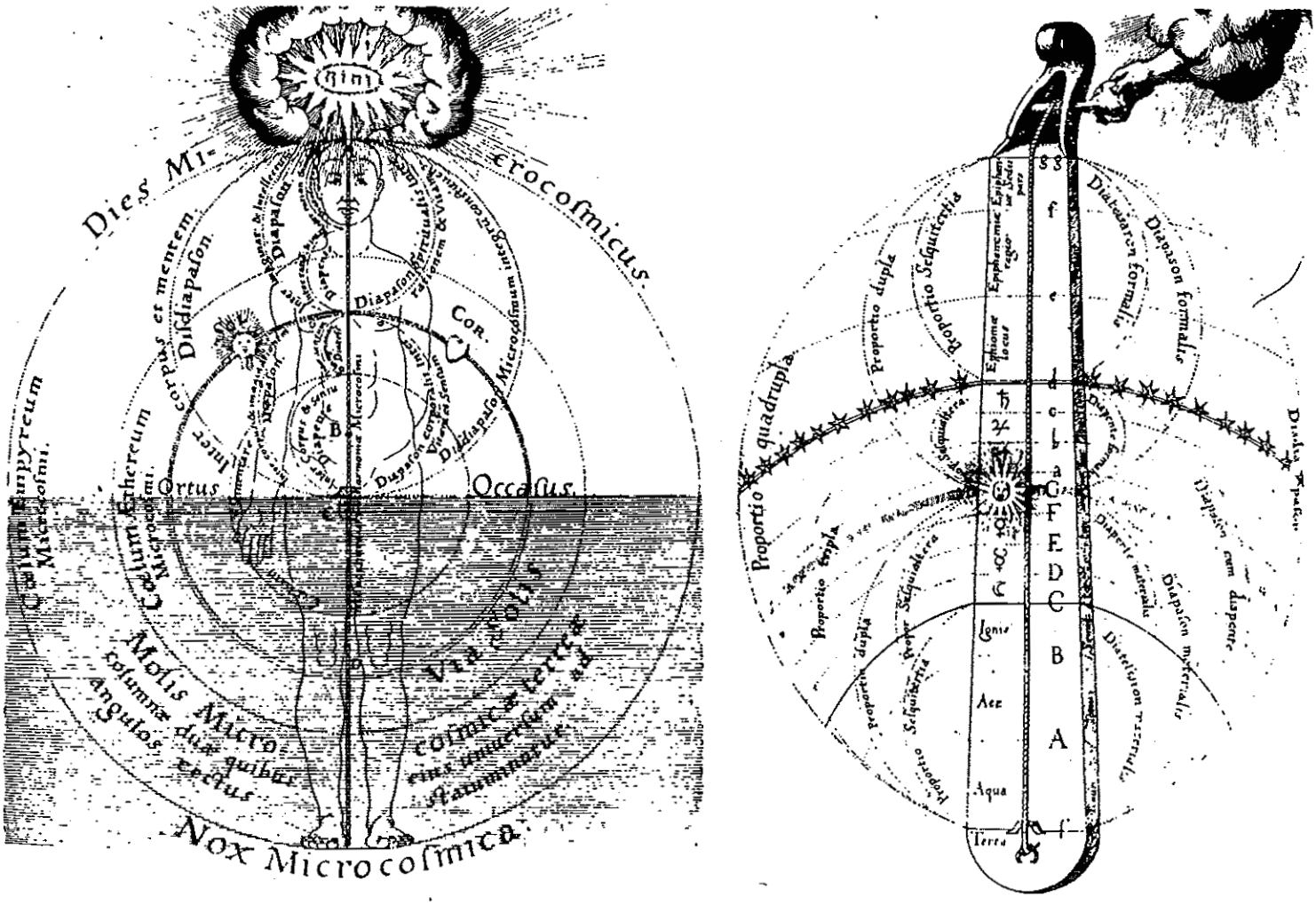
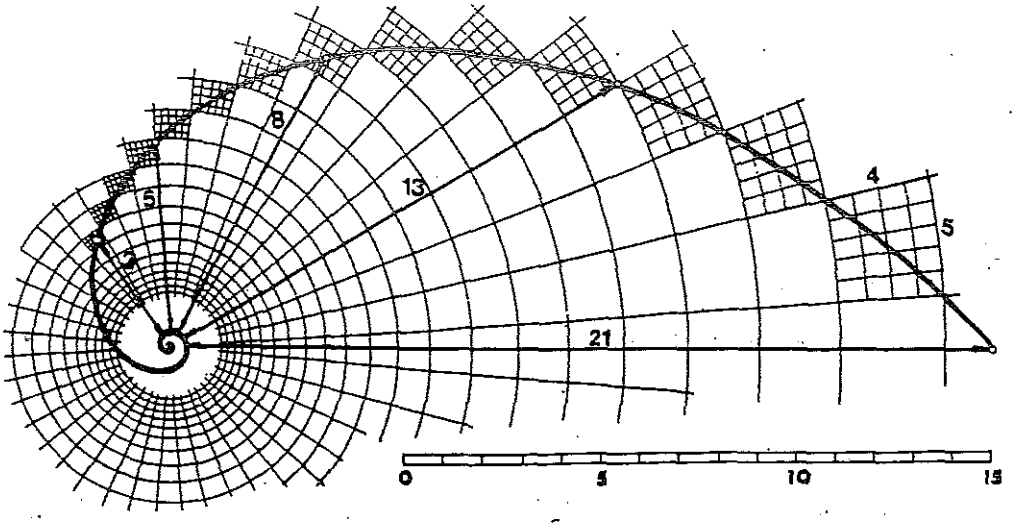


Figure 5.12. Illustrations from Robert Fludd's *Utrisque Cosmi Historica.*



genuine understanding. The clearest observation of this moment occurs in the process of growing a crystal. One gradually adds a mineral salt to a small dish of water over a period of days. The water dissolves the salt, but at the same time the air is slowly evaporating or subtracting the water. When the point of saturation is reached, and this is amazing to watch under a microscope, the so-called "mother tincture" suddenly congeals into a geometrized expression of the salt as a crystal. When such a moment occurs in the context of spiritual development it is called redemption or enlightenment.

The Golden Mean spiral, in which the geometric increase is equal to ϕ, is found in nature in the beautiful conch shell *Nautilus pompilius* which the dancing Shiva of the Hindu myth holds in one of his hands as one of the instruments through which he initiates creation. To Pythagorean eyes, however, this form embodies the dynamics of the rhythmic generation of the cosmos, and through its harmonic principle, represents universal love. The logarithmic spiral is found to be superimposable on the foetus of man and animals, and is present in the growth patterns of many plants. The distribution of seeds in the sunflower, for example, is governed by the Golden Mean logarithmic spiral. The sunflower, furthermore, has 55 clockwise spirals overlaid onto either 34 or 89 counterclockwise spirals. We recognize these numbers as part of the Fibonacci Series, which is generated by ϕ.

The series of numbers called "Fibonacci" is a special additive progression in which the two initial terms are added together to form the third term. For example:

first term = 1
second term = 1
third term = 1 + 1 = 2
fourth term = 1 + 2 = 3
fifth term = 2 + 3 = 5 . . . etc.,
leading to the progression
1,1,2,3,5,8,13,21,34,55,89,144, and so on.

The Fibonacci Series is such that any two successive terms tend to be approximately in relation to one another as $1:\phi$, and any three successive terms are as $1:\phi:\phi^2$ . . . etc.

Named after the thirteenth-century Italian mathematician who drew attention to it, the Fibonacci Se-

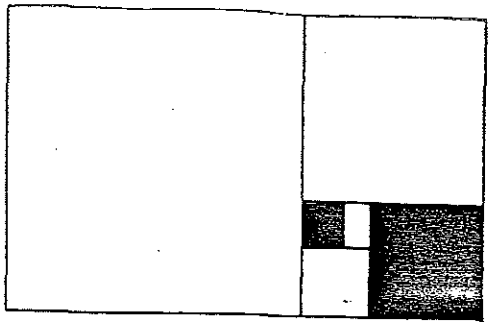


Figure 2

increase or decrease does not affect the proportion (the essence or inherent law). In other words, "the remainder is perfect." By adding an arc within each square, the formation of the

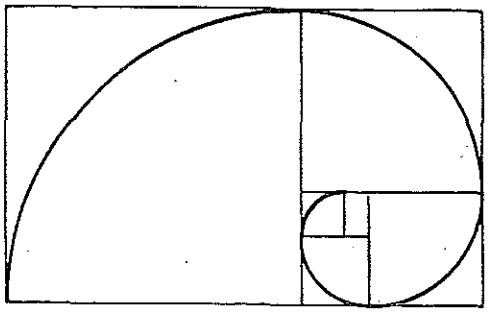


Figure 3

Golden Mean spiral emerges (Fig. 3). The outward spiral symbolizes expansion, creation, and the harmonic unfolding of the implicit order. The inward spiral shows the way back to the source, the still point where there are no ripples, where the phenomenal world ceases to exist, which the mystics describe as union with Brahman.

The Golden Proportion is closely tied to the Platonic solids, so named from their appearance in the famous dialogue *Timaeus*, in which Plato employed these geometric shapes to describe the fundamental laws of the universe (Fig. 4). The Platonic solids are defined geometrically as solid figures which divide the surface of a circumscribed sphere into like and equal parts. By this definition, it proves impossible to divide the surface of a sphere into more than these five solids.

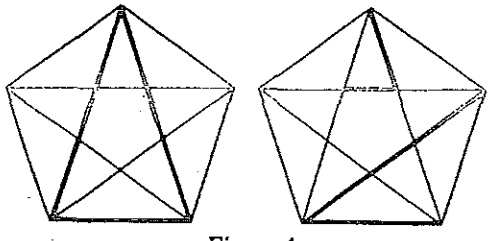


Figure 4

The clearest relationships between the Golden Proportion and the Platonic solids are manifest in the dodecahedron. With its 12 faces, 20 vertices (points of converging lines) and 30 edges, the dodecahedron is constructed of pentagons, the five-sided figure which displays in its construction the ϕ relationship upon which the Golden Proportion is based (Fig. 4). Further, the beauty of the relationships among the solids, with their Golden Proportion ratios, is most awesomely revealed when the five solids are placed one inside the other in a maze-like construction (Fig. 5).

The maze illustrates the symbolism of unity inherent in the solids. All the points, all the vertices, and all of the corresponding faces reveal each solid's connection to the others. In the seeming confusion of the lines and points, the unity emerges in a complex harmony illustrative of the harmony which is possible in the multiplicity of the creation.[7]

The symbolism of the maze points to the idea that there is within the human being the spark of divinity which forms our intimate link with the laws of the universe. We are not separate from natural phenomena, only from our own nature when we deny this inner relation and harmony. Eastern tradition associates the icosahedron with Brahman, the cause; and the dodecahedron with the manifest universe, or the effect. These rays or emanations give birth to the octahedron, symbolic of the essence or

STYLE CHARACTERISTICS OF CHARLES IVES

1. Many different layers, melodies, simultaneously

2. Strange performance instructions

3. Changing meter and accents

4. Tone clusters -- group of pitches as close together as possible played on piano by forearm, book, ruler, etc. also played orchestrally

5. Unusual tunings -- quarter tones, microtones

6. Polyrhythm or polymeter -- several simultaneous meters

7. Atonality (no key)

8. Quoting familiar tunes, disguised or changed or in unusual contexts

9. Ragtime rhythms

10. Technically difficult for performers and conductors

11. Sense of humor

12. Independent of European influence, for the most part

13. Spatial music -- coming from several directions at once in a live performance -- the forerunner of quadrophonic technology

14. Constant revision, resulting in many different versions of the same composition

15. Contradictory instructions

16. Complex , through-composed forms without the return of themes

Charles E. Ives on his music

I told him I'd start all over again, and this time I got started going wrong and kept it up perfectly, and it was recorded perfectly! Now what has all this got to do with music? This is the business of music as it is today! It's all just music to make business, rather than the business to make music. A man may play to himself and his music starts to live – then he tried to put it under a machine, and it's dead! [Ives on recording/performing.]

In 1917 the War came on, and I did but little in music. I didn't seem to feel like it. We were very busy at the office at this time with the extra Red Cross and Liberty Loan drives and all the problems that the War brought on. As I look back, I find that I did almost no composing after the beginning of 1918. The only music composed in 1918 were two songs or choruses for male voices – but later turned into brass choruses.

In October 1918, I had a serious illness that kept me away from the office for six months, and I have not been since in my former good (very good) state of health, nor have I seemed to get going "good" in music since then. (I'd start things, but they didn't seem to work out—[I] couldn't seem to keep them up and sailing. So [I] stopped and stopped etc.) I don't know how to account for it except that what strength I had was used up during the day in what I had to do at the office, and it seemed impossible to do any work in the evenings, as I used to do.

During the last ten years or so, I've completed nothing. A set of chamber music was started and is fairly and mostly set down in a sketch (some five or six years ago), and I've started a Third Piano Sonata, which doesn't seem to get along very well. In 1919 and 1920, and especially 1921, I did write quite a few songs, and arranged songs for voice and piano from several for chorus—and also at that time made arrangements of songs from old scores, sketches, overtures, etc. Sometimes whole parts of these were put into a song, and sometimes they were revised, changed, or cut down to make a song. What these were is mostly spoken about above. (I have several of these old scores.)

During the twenty years ending in 1919, only one conductor had seen any of my music. One (in 1910) did try over a part of a First Symphony, which was completed in college (1898). In the ten years ending [in] 1929, two other conductors saw one score (and these are the scores). Mr. Schmitz asked me to send the Three Places in New England to Monteux, when he was with the Boston Symphony—and Mr. Eugene Goossens played one movement of the Fourth Symphony in 1927. In January 1929, New Music (Henry Cowell, editor, San Francisco) published the score that Goossens played. In other words, in this thirty-year period, only four conductors, as far as I know, have seen any score of mine—and, with the exception of this one movement published in 1929, it is safe to say that at least 90 percent of my orchestral music has been seen by no conductor. Nicolas Slonimsky in 1929 saw the score of Three Places in New England, and he is the only conductor (at present writing, August 1931) that has made any adequate and comprehensive study of my music for orchestra. But one thing about the concerts that everyone felt was that Slonimsky was a great conductor.

I will now say goodbye. You have more to do than listen to a poem like this.

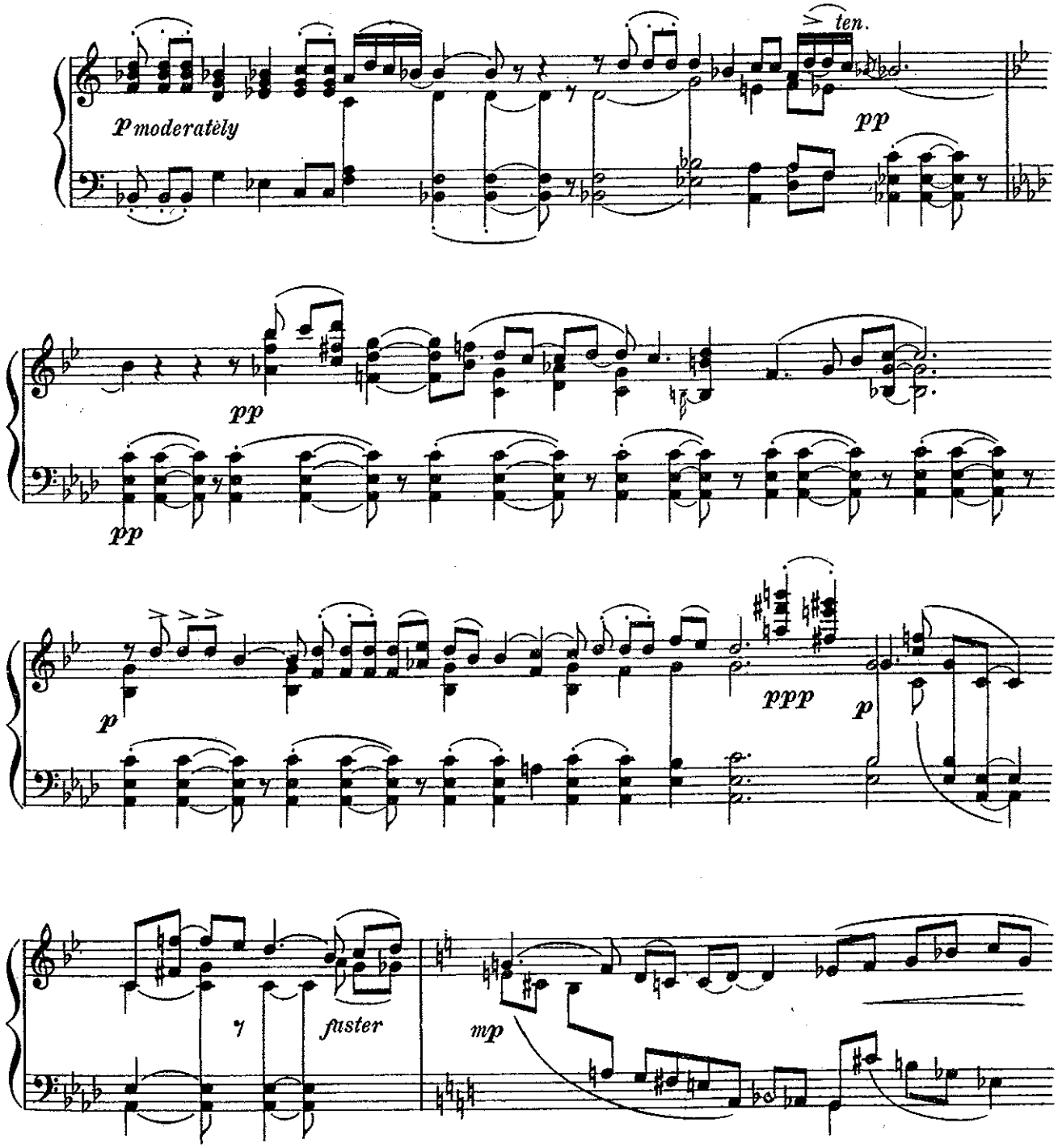
Sincerely, *Charles E. Ives*

. . . Concord village, itself, reminds one of that common virtue lying at the height and root of all the Concord divinities. As one walks down the broad-arched street, passing the white house of Emerson—ascetic guard of a former prophetic beauty—he comes presently beneath the old elms overspreading the Alcott house. It seems to stand as a kind of homely but beautiful witness of Concord's common virtue—it seems to bear a consciousness that its past *is living,* that the "mosses of the Old Manse" and the hickories of Walden are not far away. Here is the home of the "Marches"—all pervaded with the trials and happiness of the family and telling, in a simple way, the story of "the richness of not having." Within the house, on every side, lie remembrances of what imagination can do for the better amusement of fortunate children who have to do for themselves—much-needed lessons in these days of automatic, ready-made, easy entertainment which deaden rather than stimulate the creative faculty. And there sits the little old spinet-piano Sophia Thoreau gave to the Alcott children, on which Beth played the old Scotch airs, and played at the *Fifth Symphony*.

There is a commonplace beauty about "Orchard House"—a kind of spiritual sturdiness underlying its quaint picturesqueness—a kind of common triad of the New England homestead, whose overtones tell us that there must have been something æsthetic fibered in the Puritan severity—the self-sacrificing part of the ideal—a value that seems to stir a deeper feeling, a stronger sense of being nearer some perfect truth than a Gothic cathedral or an Etruscan villa. All around you, under the Concord sky, there still floats the influence of that human faith melody, transcendent and sentimental enough for the enthusiast or the cynic respectively, reflecting an innate hope—a common interest in common things and common men—a tune the Concord bards are ever playing, while they pound away at the immensities with a Beethovenlike sublimity, and with, may we say, a vehemence and perseverance—for that part of greatness is not so difficult to emulate.

We dare not attempt to follow the philosophic raptures of Bronson Alcott—unless you will assume that his apotheosis will show how "practical" his vision in this world would be in the next. And so we won't try to reconcile the music sketch of the Alcotts with much besides the memory of that home under the elms—the Scotch songs and the family hymns that were sung at the end of each day—though there may be an attempt to catch something of that common sentiment (which we have tried to suggest above)—a strength of hope that never gives way to despair—a conviction in the power of the common soul which, when all is said and done, may be as typical as any theme of Concord and its transcendentalists.

III. "The Alcotts"



mf

f *ff faster* *mf* *f*

In a gradually

l.h.

excited way.

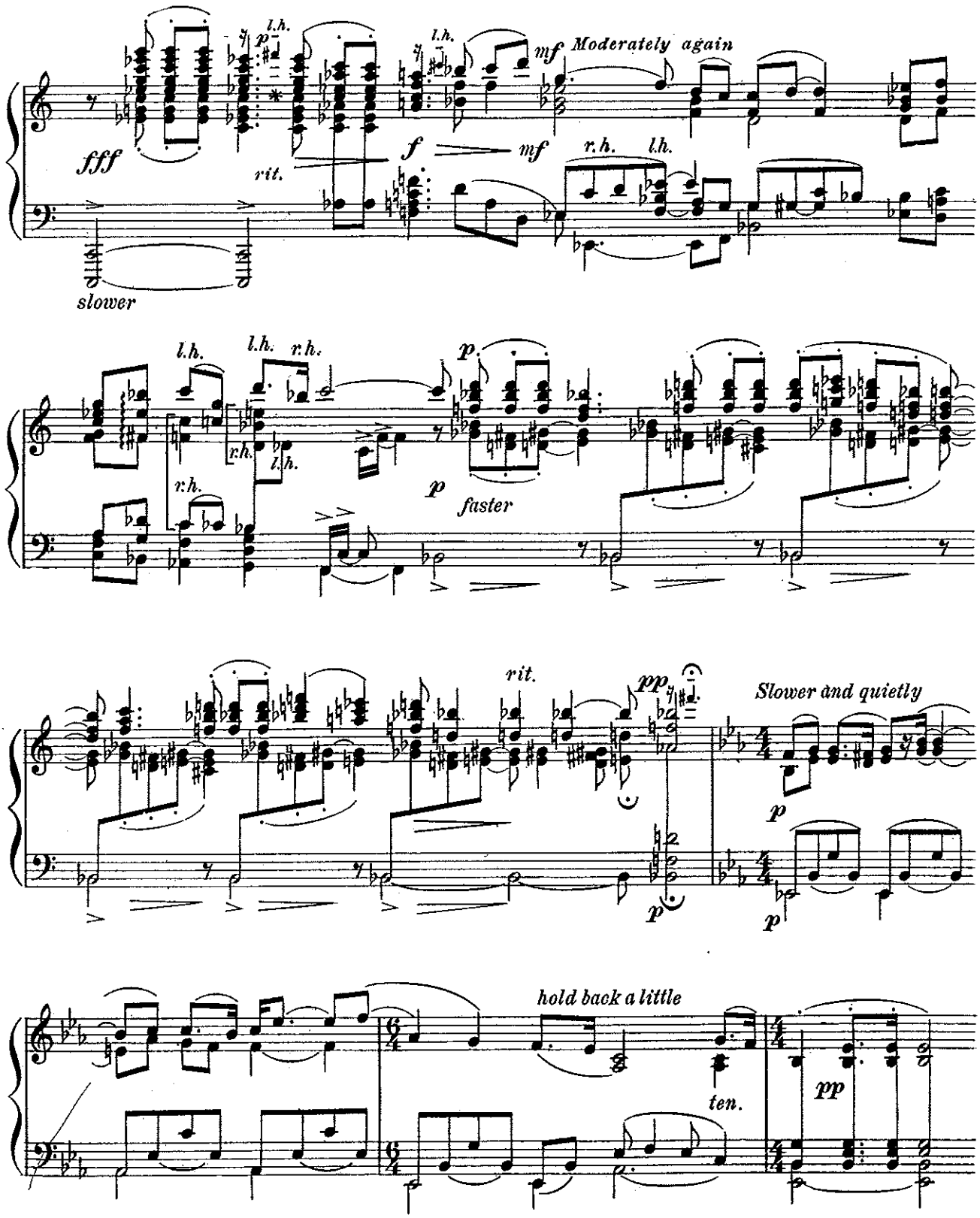
l.h. *l.h.*

ff *ff*

faster

accel.

The Alcotts 5



The Alcotts 5

A little faster

mp

poco rit.

pp

p

p

hold back a little

pp

faster

mp

f

gradually faster

gradually more animated

The Alcotts 5

f

cresc.

accel. - - - cresc.

r.h. l.h.

fast and working up

r.h. l.h.

ff

animando

ff

gradually slower ff slowly and broadly

fff

dim. e rit.

ff f mp

f mp pp

pp

slower